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PROVINCIAL SERIES

ANDAMAN

AND

NICOBAR ISLANDS

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PREFACE

THE articles in this volume were written by Lieut.-Colonel Sir Richard C. Temple, Bart., C.I.E., formerly Chief Commissioner, and have been brought up to date by the present officers of the Penal Settlement at Port Blair.

As regards the Andamans, the sections on Geology, Botany, and Fauna are based on notes supplied respectively by Mr. T. H. Holland, Director of the Geological Survey of India; Lieut.-Colonel Prain, I.M.S., formerly Superintendent of the Royal Botanical Gardens, Calcutta ; and Major A. R. S. Anderson, I.M.S., formerly Senior Medical Officer, Port Blair. Among the printed works chiefly used may be mentioned those of Mr. E. H. Man, C.I.E., and Mr. M. V. Portman, both formerly officers of the Penal Settlement.

As regards the Nicobars, the sections on Geology, Botany, and Zoology are chiefly based on the notes of Dr. Rink of the Danish *Galathea* expedition, of Dr. von Hochstetter of the Austrian *Novara* expedition, and of the late Dr. Valentine Ball. The other printed works chiefly used are those of Mr. E. H. Man, C.I.E., and the late Mr. de Roepstorff, an officer of the Penal Settlement.

In both accounts official reports have been freely used, while the article on the Penal Settlement at Port Blair is entirely based on them. For the remarks on the languages of the native population Sir Richard Temple is responsible.

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PROVINCIAL GAZETTEERS OF INDIA

ANDAMAN AND NICOBAR ISLANDS

Andaman and Nicobar Islands.—A group of islands in the Bay of Bengal, to which geographically belong also the Preparis and Cocos groups (under the Government of Burma). The islands are formed by the summits of a submarine range connected with the Arakan Yoma of Burma, stretching in a curve, to which the meridian 92° E. forms a tangent, between Cape Negrais and Sumatra (Achin Head). The extreme north point of the Andamans lies in 13° 34′ 3″ N., and the extreme south point of the Nicobars in 6° 45′ N. Position.

This curved line of submarine hills extends for 700 geographical miles, and encloses the Andaman Sea, bounded to the east by the coasts of Burma, the Malay Peninsula, and Sumatra, and communicating with the outer ocean by seven broad channels or openings, six from the Bay of Bengal on the west, and one from the Gulf of Siam on the east, the broadest being 91 miles. Of these two are deep: the Ten Degrees Channel, 560 fathoms, and the Great Channel, 798 fathoms, while of the rest only the South Preparis Channel is more than 100 fathoms deep. Within 30 miles to the west the Bay of Bengal, and within 100 miles to the east the Andaman Sea, each reach a depth of more than 2,000 fathoms. The 100 fathom line connects the Preparis group with Burma (Cape Negrais), converts all the Andamans with the Cocos group into one island, and, except for a few deeper soundings, all the Nicobars into another island. It would also convert the Invisible Bank, 40 miles east of the South Andaman, now a mere rock awash in mid-ocean and a recognized danger of these seas from the earliest times, into a considerable island, and would considerably enlarge the area of the marine volcano, Barren Island. Thus, geographically speaking, the Andamans and Cocos are portions of one summit, and the Nicobars of another,

of the submarine range between Burma and Sumatra, whose eastern outlying spurs are expressed by the Invisible Bank and Barren Island. Narcondam belongs to the Asiatic continent (Burma).

Narcondam and Barren Island are properly volcanoes belonging to the Sunda group, and lie, with the Nicobars, along one of the principal lines of weakness in the earth's surface. The Andamans are just off this, and escape the violent earthquakes to which the others are liable. The general geographical phenomena are in fact the same as those of the Japan Islands, and of other groups similarly situated on various parts of the earth's surface. They indicate the existence of a submarine range of great length and height, showing above the sea surface as a string of islands, on the outer fringe of a mediterranean sea bordering a continental shore, having volcanoes on it or between it and the mainland.

Port Blair.

PORT BLAIR, the head-quarters of the Administration, is situated by sea 780 miles from Calcutta, 740 miles from Madras, and 360 miles from Rangoon, with which ports there is regular communication. It is 140 miles from Car Nicobar, 225 miles from Nancowry Harbour, 265 miles from Great Nicobar, 105 miles from Narcondam, and 71 miles from Barren Island, the chief outlying points for local visits.

Area and population.

The land area of the islands under the Administration is 3,143 square miles: 2,508 square miles in the Andamans, and 635 square miles in the Nicobars. The population of the whole area was returned at the Census of 1901 as 24,649: namely, Andamanese, 1,882; Nicobarese, 6,511; the Penal Settlement, 16,256.

The Andamanese population is decreasing to an alarming extent. It is now taken at under 2,000, while up to a generation ago it must have been about 5,000. The children number only a fourth of the adults. The cause of the diminution of the population is infectious and contagious disease, the result of contact with an advanced civilization. Epidemics, all imported, of pneumonia (1868), syphilis (1876), measles (1877), and influenza (1892), together with exposure to the sun and wind in cleared spaces, the excessive use of tobacco (but not of intoxicants), and overclothing have been the chief means. Disease, introduced by the carelessness or callousness of individuals in the first instance, and spread broadcast among the savages by their own ignorance in the next place, has worn down the actual numbers of the tribes, and has apparently rendered the union of the sexes infructuous in many cases.

The Nicobarese population is stationary. In the Census of 1901 the Shom Pen tribe and foreign traders were included, but not in that of 1883. Excluding the extra figures, the population only rose from 5,942 in 1883 to 5,962 in 1901. This result supports the abstract argument that savage and semi-civilized populations quickly reach the limit of increase, that limit depending on the method of gaining their livelihood in the area they occupy. As long as such people adhere to their habits of life, the population remains stationary after a short period of occupation of a new territory. When the territory occupied consists of islands, the population is especially limited by habits as to food production and by the area of productive occupation.

The Andamanese are a standing puzzle to ethnologists. The various tribes form one race of Negritos, speaking varieties of a single fundamental language. The safest thing to say about them is that they are probably relics of a race now represented by themselves, the Semangs of the Malay Peninsula, and the Aetas of the Philippines, which in very ancient times occupied the south-eastern portion of the Asiatic continent and its outlying islands, before the irruptions of the oldest of the peoples whose existence or traces can now be found there. In this view the Andamanese are of extreme ethnological interest, as probably preserving, in their persons and customs, owing to an indefinite period of complete isolation, the last pure remnant of the oldest race of man in existence. The antiquity of the Andamanese on their present site is proved by the kitchen-middens, rising from 12 feet to 15 feet and more in height, and in some cases having fossilized shells at the base. These show that the Andamanese still get their food just as they did when the now fossil shells contained living organisms. Ethnic affinities.

It is not easy to present a brief, clear, and yet adequate account of the Nicobarese, and quite impossible to present an authoritative one. Their complicated system of civilization has not been sufficiently studied; and the large number of more or less inaccurate notes extant about them were made by observers of widely different equipment for the purpose, and are scattered over publications difficult of access, so that many controversial points remain unsettled. However, despite local differences, they can be fairly treated as one people, whose affinities are towards the Far Eastern and not towards the Indian peoples. Their own idea of themselves is that they came from the Tenasserim coast, an idea borne out by physical structure, social habits, trend of civilization, and lan-

guage. Everything so far ascertained points to an origin from the Indo-Chinese, as distinguished from the Tibeto-Burmese or Malay tribes or nations. In the view that they represent that portion of the Indo-Chinese race which has been the longest isolated and the most free from disturbing influences, they are of the highest ethnological interest.

Revenue.

It is not the policy of Government to raise revenue from the aboriginal population of the islands, and financial interests are confined to the Penal Settlement, in which the requirements of convict discipline and management are placed before revenue. The expenditure for 1904–5 was 18·3 lakhs, and the revenue, chiefly the result of convict labour on productive works, was 9·8 lakhs. Of this sum about two-thirds was raised from convict labour devoted to forest produce.

Administration.

The islands are administered by the Chief Commissioner of the Andaman and Nicobar Islands, who is also Superintendent of the Penal Settlement. All the officials reside in the Penal Settlement, except the Government Agents at Mus in Car Nicobar and at Nancowry Harbour (Camorta). Such slight control as is necessary over the Andamanese is exercised by an officer in charge of them, who is one of the executive magisterial officers of the Penal Settlement, appointed for the purpose by the Chief Commissioner. The control of the Nicobars is exercised by judicial and executive officers deputed to visit the islands at short periods by the Chief Commissioner and under his orders.

Surveys.

The whole of the Andamans and the outlying islands were completely surveyed topographically by the Indian Survey department in 1883–6; and a number of maps on the scale of 2 miles to the inch were produced, which give an accurate coast-line everywhere, and astonishingly correct contours of the inland hills, considering the difficulties presented by the denseness of the forests with which they are covered. For Port Blair and the neighbourhood a series of maps on the scale of 4 inches to the mile were made. The exact latitude and longitude of Chatham Island in Port Blair Harbour were determined astronomically in 1861 as 11° 41′ 15″ N. and 92° 42′ 44″ E. The marine surveys of the Andamans date back many years to the days of Ritchie (1771), and of Blair and Moorsom (1788–96), for partial charts which are still of use. Booker's surveys of 1867 added much to the knowledge of Port Blair; but the serious dangers of the western coral banks were not removed by surveys till 1888–9 under Commander A. Carpenter, when a great advance in the charts generally was

made. His general chart is that now in use, corrected by subsequent surveys up to 1899. The coasts on the whole are fairly well charted, but some most necessary work still remains to be done before a voyage round these dangerous coral-bound coasts can be free from anxiety. It is, however, worth noting that the long-standing notice on charts that 'the dangers of the North Andaman have not been surveyed' is now at last removed, and that the Coco Channel is safe for ships. A fresh issue of the 2 miles to the inch maps with many additional names was made in 1902–3. At p. 31 of the *Census Report*, 1901, is a list of Andamanese names for places known to Europeans by other names.

The whole of the Nicobars and outlying islands were surveyed topographically by the Indian Survey department in 1886–7, and a number of maps on the scale of 2 miles to the inch were produced, giving an accurate coast-line. The longitude of the former Camorta Observatory in Nancowry Harbour has been fixed at 93° 31′ 55·05″ E. The marine surveys of these islands date back to the days of Ritchie (1771) and Kyd (1790), and are still meagre and not satisfactory. The chart in use is that of the Austrian frigate *Novara* (1858), combined with the Danish chart of 1846, with corrections up to 1889. A large-scale chart of Nancowry Harbour was made by Kyd in 1790, and has been corrected up to 1869. There are beacons for running in at Mus and Sawi Bay in Car Nicobar, at Bangala in Teressa, and (now doubtful) buoys in the eastern entrance to Nancowry Harbour. A voyage round these coral-bound and sparsely-sounded coasts is one to be made with caution. The Eastern Extension Company's cable from Madras to Penang lies between the Central Group and Car Nicobar, the whole line across the Andaman Sea being, of course, charted.

At p. 146 of the *Census Report*, 1901, is a series of village maps, which should, however, be used with the caution there given.

[More detailed information about the islands will be found in the three articles on the ANDAMANS, NICOBARS, and PORT BLAIR (the Penal Settlement).]

Andamans.—A group of islands in the Bay of Bengal, administered by the Chief Commissioner of the ANDAMAN AND NICOBAR ISLANDS. The main part of the Andaman group is a band of five chief islands, so closely adjoining and overlapping each other that they have long been known as one: namely, the Great Andaman. The five islands are (north to Physical aspects.

south): North Andaman, Middle Andaman, South Andaman, Baratang, Rutland Island. The axis of this band forms almost a meridional line 156 statute miles long. Four straits divide these islands; namely (north to south), Austen Strait, Homfray's Strait, Middle or Andaman Strait, Macpherson's Strait. Attached to the main islands are the Landfall Islands to the north, Interview Island to the west, the Labyrinth Islands to the south-west, and Ritchie's or Andaman Archipelago to the east, separated by Diligent Strait. Little Andaman, measuring roughly 26 miles by 16 miles, is 31 miles to the south across Duncan Passage, in which lie the Cinque Islands, forming Manners Strait, the commercial highway between the Andamans and the Madras coast. Besides these a great many islands, said to number altogether 204, lie off the shores of the main islands. The extreme length of the group is 219 miles, and the extreme breadth 32 miles, the total land area being 2,508 square miles.

The outlying islands are the North Sentinel, 28 square miles, 18 miles off the west coast; Barren Island, 1,158 feet above the sea, a marine volcano; and Narcondam (2,330 feet), an extinct volcano, each 71 miles from the east coast.

Origin of name. The name has always been in historical times some form of Andaman, which more than probably represents Handuman, the Malay form of Hanumān, treating the islands as the abode of the Hindu mythological monkey people, or savage aboriginal antagonists of the Aryan immigrants into India.

Hills and rivers. The islands forming Great Andaman consist of a mass of hills enclosing very narrow valleys, the whole covered by an exceedingly dense tropical jungle. The hills rise, especially on the east coast, to a considerable elevation. The chief heights are: in the North Andaman, Saddle Peak, 2,400 feet; in the Middle Andaman, Mount Diavolo behind Cuthbert Bay, 1,678 feet; in the South Andaman, Koiob, 1,505 feet, Mount Harriett, 1,193 feet, and the Cholunga Range, 1,063 feet; in Rutland Island, Ford's Peak, 1,422 feet. Little Andaman, with the exception of the extreme north, is practically flat. There are no rivers and few perennial streams in the islands.

Harbours. The coasts of the Andamans are deeply indented, forming a number of safe harbours and tidal creeks, which are often surrounded by mangrove swamps. Starting northwards from Port Blair, the great harbour of South Andaman, the chief harbours, some of which are very capacious, are, on the east coast: Port Meadows, Colebrooke Passage, Elphinstone Har-

bour (Homfray's Strait), Stewart Sound, Port Cornwallis, the last three being very large; on the west coast: Temple Sound, Interview Passage, Port Anson or Kwangtung Harbour (large), Port Campbell (large), Port Mouat, and Macpherson's Strait. Many other safe anchorages for sea-going vessels lie along the coasts: notably Shoal Bay and Kotara Anchorage in the South Andaman, Cadell Bay and the Turtle Islands in the North Andaman, and Outram Harbour and Kwangtung Strait in the Archipelago.

The scenery is everywhere strikingly beautiful and varied, and the coral beds of the more secluded bays are conspicuous for their exquisite assortment of colour. The harbours have been compared to Killarney, and no doubt they do recall the British Lakes. One view of Port Blair Harbour is strongly reminiscent of Derwentwater as seen from the Keswick end. Scenery.

Geologically the Andamans form a southward continuation of the Arakan Yoma. Two sedimentary series only have so far been distinguished, the Port Blair and the Archipelago. With these are associated altered igneous intrusions of great interest, and volcanic rocks. The Port Blair series, evidently the same as the Negrais rocks of Arakan, consists principally of non-calcareous grey sandstone and imbedded shales, with occasional nests of poor coal, conglomerates, and pale grey limestone. The limestone is recognized by its peculiar honeycombed weathering. The Archipelago series consists of soft limestones formed of coal and shell sand, soft calcareous sandstones and white clays, with occasional conglomerates. The Port Blair series is older than the Archipelago. Geology[1].

Volcanic fragmentary rocks, apparently younger, occur in the Port Blair series, at Entry Island in Port Meadows on the east coast of the South Andaman, and indurated and altered intrusions of serpentine are found in the Cinque Islands and elsewhere. This serpentine contains chromites, is associated with gabbro, and is similar to the great intrusions in the Arakan Yoma. Chromite, asbestos, and valuable minerals should be looked for here.

Other valuable substances that have been found are hard volcanic breccias at Nàmūnaghar in the Penal Settlement, yielding an excellent building stone; good red clay for bricks in pockets; abundant old coral, valuable for lime, pockets of workable limestone, and a pretty reddish marble in the Penal

[1] Chiefly based on a note by Mr. T. H. Holland of the Geological Survey.

Settlement; red ochre (*koiob*) in pockets, making when mixed with *gurjan* oil (a local product) an excellent covering for shingle roofs; and mica in workable quantities about Navy Bay Hill in Port Blair Harbour.

There has been a comparatively recent elevation in parts of the Andamans, especially in the Archipelago, and a depression in others, chiefly along the east coast.

Botany[1]. The vegetation of the Andamans is an almost unbroken tropical forest, of a distinctly Indo-Chinese type, with a strong admixture of Malayan types. The forest consists of two clearly marked divisions, the littoral and the non-littoral, the former of which is the more valuable economically.

The sandstone ledges and the fringing coral reefs around the coasts are wonderfully free from marine vegetation, and the seaweeds are as a rule inconspicuous and scarce. The beaches, sand, and shingle are, however, covered with two varieties of *Ipomoea*, which are valuable as shore protectors, and the mangrove beach forest is very extensive and valuable. The sea-fence contains, among other species, the *Pandanus* and the *Nipa* palm, which are of economic value. But the absence here of the coco-nut and the casuarina is remarkable, as the former is plentiful in the Nicobars and in the Cocos, and the latter so near as the Little Andaman. The whole beach forest is characteristically Indo-Malayan, and provides no special indications as to connexion with the Asiatic continent or Malay Archipelago.

The true Andaman forests are filled with evergreen trees, usually heavily laden with climbers, though considerable patches of deciduous forest, with occasional glades of bamboo, are to be met with. Usually in the evergreen tracts the ridges are covered with small or stunted trees inextricably tangled with masses of creepers, the fine forests being confined to the slopes. The bamboo groves are generally associated with patches of indurated chloritic rock or sandstone. On the whole the non-littoral Andaman flora comprises a considerable number of endemic forms, and includes an appreciable proportion of forms that are found, outside the Andamans, only in Tenasserim on the opposite shore of the Andaman Sea. The preponderance of Indo-Chinese types is thoroughly in accordance with what one would expect from the physiographical relationships of the islands.

The timber available for economic purposes is both plentiful

[1] Chiefly based on notes by Major D. Prain, I.M.S., Superintendent of the Royal Botanic Gardens, Calcutta.

and various. It is divided for commercial objects into three classes: first class, *padauk (Pterocarpus dalbergioides)*, *kokko* (*Albizzia Lebbek*), *chuglam* (*Terminalia bialata* and *Myristica Irya*), marble-wood, and satin-wood; second class, *pyinma* (*Lagerstroemia Flos Reginae*), *bombway*, *chai*, *lakuch*, *lalchini*, *pongyet*, *thitmin*, *mowha*, *khaya*, *gangaw*, *thingan* (*Hopea odorata*); third class, *didu*, *ywegyi*, *toungpeingyi*, and *gurjan* (*Dipterocarpus turbinatus*). *Padauk* is the chief timber exported to Europe and America, and fetches a very high price per ton, but other first-class timbers also find a market there. *Gurjan* may be found useful for sleepers and wood-paving, and yields oil used locally for paint. Third-class timbers meet with a ready sale in Calcutta, while the second class are extensively used locally.

In the last few years the islands have been carefully explored; and on the expiry of the term for which an exclusive contract has been given for the extraction of *padauk*, it is proposed to offer a long lease for the exploitation of these valuable forests. It is estimated that the annual yield of both *padauk* and *gurjan* will be 10,000 to 12,000 tons. The financial results at present are shown in the article on PORT BLAIR.

Among the introduced plants and trees are tea, Liberian coffee, cocoa, Manila hemp, teak, and coco-nut, besides a number of shade and ornamental trees, fruit trees, chiefly anti-scorbutic, vegetables, and garden plants.

The crops chiefly raised are rice, pulse, maize, sugar-cane, and turmeric.

There are no dangerous mammals. The poisonous snakes include the cobra, the hamadryad, the blue *karait*, the sea-snakes, and two species of pit-viper; the last are very numerous, and frequently bite people working in the forests, though their bite is seldom fatal. A pig (*Sus andamanensis*), a *Paradoxurus* (? *tytlerii*) or 'wild cat,' and an iguana of some size are hunted for food. The marine fauna is of unusual interest, and goes to show, what other physiographical facts have proved, the close connexion of the islands with both Burma and Sumatra, and the distant alliance with the Indian Peninsula. The land fauna in several particulars shows that the Andamans are closely allied zoologically with their neighbours, Arakan and Burma. Economic zoology may be thus summed up: extensive coral reefs for lime; sea-cucumbers (*trepangs*) and the finest quality of edible birds'-nests for the Chinese market; wax and rather poor honey in quantities; cuttle-bones, ornamental shells,

Fauna [1].

[1] Based on notes by Major A. R. S. Anderson, I.M.S.

edible oysters, edible turtle and tortoise-shell, ornamental and pet birds, all plentiful.

Climate.

Speaking generally, the climate may be described as normal for tropical islands of similar latitude. It is warm always, and, though tempered by pleasant sea-breezes, very hot in the summer. The rainfall is irregular, but most is received during the south-west monsoon, though some rain falls in the north-east monsoon. The islands are subject to violent weather with excessive rainfall, but cyclones are rare, though the Andamans are within the influence of practically every cyclone that blows in the Bay of Bengal. The value of the information to be obtained here as to the direction and intensity of cyclonic storms, and weather prognostications generally as regards the eastern and northern portions of India, is very great.

Temperature.

The following table gives the average temperature (in degrees F.) for twenty-five years ending with 1901 at Port Blair :—

Height of Observatory above sea-level.	January.		May.		July.		November.	
	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
61 feet	81·1	10.8	83.8	10.7	81.5	8.0	82.0	9.6

NOTE.—The diurnal range is the average difference between maximum and minimum temperature of each day.

This table must, however, be received with caution, owing to the situation of the meteorological station on a bare islet surrounded by sea influences. The second average is also taken in May, a wet month, instead of in April, a dry month.

Rainfall.

The rainfall varies much from year to year, and to an extraordinary extent at places near to each other. The official station is situated in the driest spot in Port Blair. The monthly averages (in inches) for twenty-five years ending with 1901 are as follows :—

Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1·04	0.72	0.43	3·02	16.64	18.71	15·06	14·40	18.84	11.61	9.44	6.52

The yearly fall is thus 116 inches. The fluctuations in the period have varied from 83 inches in 1900 to 138 inches in 1882. Seven rain-gauges are maintained at Port Blair within an area of 80 square miles, and the combined results tend to show that the true average rainfall of the islands is about 140 inches per annum. The actual variation at these stations is very great; and the difference in the fall on the north of Ross

Island, half a mile from the south of Ross Island, the official station, is often as much as 9 inches in one year.

Cyclonic storms struck Port Cornwallis in December, 1792, the Archipelago in November, 1844, and Port Blair in 1864, and November, 1891. There were also abundant signs of a destructive storm between Stewart Sound and Port Cornwallis in 1893. The great storms of 1891 and 1893 travelled across the islands in a north-westerly direction, creating havoc on both the east and west coasts. A full and valuable record of the disastrous storm of 1891 is given in *Cyclone Memoirs*, No. V, Government of India, 1893. Cyclonic storms.

Although the Andamans lie along or are close to a recognized subterranean line of weakness, earthquakes of great violence have not been recorded during the short time of British occupation. Minor earthquakes occurred in August, 1868; February, 1880, and then shocks at intervals till December 31, 1881; February, 1882; August, 1883; July, 1886; July, 1894; October, 1899. The sound of the great seismic disturbance in the Straits of Sunda on August 26, 1883, was heard at Port Blair at 9 p.m. of that day, and extra tidal waves caused thereby were felt at 7 a.m. on the 27th. Earthquakes.

The tidal observatory with a self-registering gauge on Ross Island, established in 1880, is situated in 11° 41′ N. and 92° 45′ E. The Port Blair tide-tables are printed by authority from local data. The heights are referred to the Indian spring low-water mark, which for Port Blair is 3·53 feet below mean sea-level. The mean range of greatest ordinary springs is 6·6 feet. The highest spring and the lowest neap are 8 feet above and 8 feet below the datum above mentioned. The apparent time of high water at the full and change of the moon is 9h. 36m. Tides.

Owing to the ancient course of trade, the existence of the islands has been known from the early times. Ptolemy's Agathou Daimonos Nesos probably preserves a misunderstanding of some term applied by sailors to a place in or near to the modern Andamans. Notices of the old travellers, Chinese, other Asiatic, and European, are continuous from the seventh century A.D.; and the islands regularly appear in some shape or other on maps of these regions from the Middle Ages onwards. In 1788, owing to piracies and ill-treatment of shipwrecked and distressed crews, the East India Company commissioned the great surveyor, Archibald Blair, to start a settlement on the ordinary lines, to which convicts were afterwards sent as labourers. He fixed on Port Blair for his General history.

settlement in 1789; but for strategical reasons it was moved to Port Cornwallis in 1792, where the settlers suffered miserably from the effects of an unhealthy site and want of experience of the climate. Here it was under Colonel Kyd. Blair's and Kyd's reports have all been preserved in the *Bengal Consultations*, and are published in the *Indian Antiquary*, vol. xxviii onwards. Continuous piracy and murders led to the second occupation in 1856. The Mutiny of 1857 threw a large number of mutineers, deserters, and rebels on the hands of the Government, with whom it was difficult to deal, and in November of that year it was finally decided to send them to the Andamans. In 1858 this great experiment in treating convicts was commenced, one of the last acts of the East India Company being the formal confirmation of the Indian Government's proceedings. In 1872 the Andamans and Nicobars were formed into a Chief Commissionership; and in the same year occurred the one event of general importance that has made the Andamans well-known, the murder of Lord Mayo, Viceroy of India, by a convict, while on a visit of inspection to the settlement. Further details of the Penal Settlement will be found in the article on PORT BLAIR.

Population.

In 1901 the total indigenous population was 1,882. No previous Census of the aborigines had been taken, but it seems probable that their number is decreasing, owing to the introduction of disease. Their ethnic affinities have been discussed in the article on ANDAMANS AND NICOBARS.

Race and tribes.

An Andamanese belongs to a family, which belongs to a sept, which belongs to a tribe, which belongs to a group of tribes or divisions of the race. The first two of these, without being specifically named, are recognized by the people; the last two have specific names. There are twelve tribes in three groups as follows: Northern or Yerewa group, consisting of the Chariar (or Chari), Kora, Tabo (or Bo), Yere, and Kede tribes; Southern or Bojigngiji group, consisting of the Bea, Balawa, Bojigyab, Juwai, and Kol tribes; Outer group, or the Onge-Jarawa tribes. All the tribes inhabit the Great Andaman, except the Balawa of the Archipelago, the Onge of the Little Andaman, and the Jarawa of the North Sentinel and parts of the South Andaman and Rutland Island. Each group has certain salient characteristics:—the forms of the huts, bows and arrows, and canoes, of ornamentation, females' clothing, hair-dressing and utensils, of tattooing, of language, being common generally to the group, but differing in details, and sometimes entirely from those of the other groups. The Onge-Jarawas

differ from the rest by not tattooing. The race is also divided into Aryoto or long-shore men and Eremtaga or jungle-dwellers; the habits and capacities of these two differ owing to surroundings, irrespective of tribe. Most tribes contain both Aryoto and Eremtaga, but some are entirely one or the other.

Before the arrival of the British, the tribes, excepting actual neighbours, may be said to have had no general intercourse with each other, and, apart from some individuals, were entirely unable to converse together. Even septs had but little mutual intercourse and considerable differences in details of dialect; and, as has occurred in other island abodes of savages, there must have been a change of dialect or language along about every 20 miles of coast.

The tribal feeling is friendly within the tribe, courteous to other Andamanese if known, and hostile to every stranger, Andamanese or other. The sympathy and antipathy exhibited are strictly natural, i. e. savage, and are governed by descent. The one custom that has served to make the various septs of a tribe hang together is that of a very free adoption of each other's children, only those under six or seven usually living with their parents.

The Andamanese are bad fighters and never attack unless certain of success. During hostilities they never adopt any precautions as to their own safety, nor in the attack, beyond taking advantage of cover. Jarawas and some Onges kill every stranger at sight, but at present only the Jarawas are entirely hostile. All other tribes are quite friendly; and shipwrecked mariners would find the people not only friendly and helpful, but also likely to give notice to Port Blair at once of their predicament, except at the following points: south and west of Little Andaman, North Sentinel, south of Rutland Island and Hut Bay on its western coast, Port Campbell and a few miles north of it on the west coast of the South Andaman.

The Andamanese languages are extremely interesting from the philological standpoint, on account of their isolated development. No connexion with any other group has yet been traced. They exhibit the expression of only the most direct and simplest thought, show few signs of syntactical, though every indication of a very long etymological growth, are purely colloquial, and are wanting in the modifications always necessary for communication by writing. The Andamanese show, however, by the very frequent use of ellipsis and of clipped and curtailed words, a long familiarity with their speech. Language.

The sense of even proper names is not immediately apparent; and speakers invariably exhibit difficulty in expressing abstract ideas, though none in expanding or in mentally differentiating or classifying ideas, or in connecting several closely together. Generic terms are usually wanting, and specific terms are numerous and extremely detailed. Narration almost always concerns the people themselves or the chase. Only what is absolutely necessary is usually expressed, and the speech is jerky, incomplete, elliptical, and disjointed. Introductory words are not much used, and no forward references are made. Back references by means of words for that purpose are not common, nor are conjunctions, adjectives, adverbs, or even pronouns. An Andamanese will manage to convey his meaning without employing any of the subsidiary and connecting parts of speech. He ekes out with a clever mimicry a great deal by manner, tone, and action: and this habit he exhibits abundantly in the form of his speech. Narration is nevertheless clear, in proper consecutive order, and not confused.

The general indications that the languages represent the speech of undeveloped savages are confirmed by the intense anthropomorphism exhibited therein. The Andamanese regard not only all objects, but also every idea associated with them, as connected with themselves and their necessities, or with the parts of their bodies and their attributes. They have no means of expressing the majority of objects and ideas without such references; they cannot say 'head' or 'heads,' but must say 'my, your, his, or ——'s, this one's, or that one's head,' or 'our, your, their, or ——'s, or these ones', or those ones' heads.'

But though they are savage languages, limited in range to the requirements of a people capable of but few mental processes, the Andamanese tongues are far from being primitive. In the evolution of a system of pre-inflexion in order to connect words intimately, to build up compounds and to indicate back references, and in a limited exhibition of the idea of concord by means of post-inflexion of pronouns, they indicate a development as complete and complicated as that of an advanced tongue representing the speech of a highly intellectual people. These lowest of savages show themselves to be, indeed, human beings, immeasurably superior in mental capacity to the highest of the brute beasts.

The languages all belong to one family, divided into three groups, closely connected to the eye, but mutually unintelligible to the ear. They are agglutinative in nature, synthesis being

present in rudiments only. They follow the general grammar of agglutinative languages. All the affixes to roots are readily separable, and the analysis of words shows a very simple mental mechanism, and a low limit in range of thought and in the development of ideas. Suffixes and prefixes are largely used, and infixes are also employed to build up compound words. As with every other language, foreign words have lately been fitted into the grammar with such changes of form as are necessary for absorption into the general structure of Andamanese speech.

On the whole the speech is purely colloquial, and entirely dependent on concurrent action for comprehension. When a party returned who were present at the death of an officer killed by an arrow in the jungles, they explained the occurrence to their friends in Port Blair by much action and pantomime and few words. The manner of his death was explained by the narrator lying down and following his movements on the ground. A detailed grammar will be found in the *Census Report* for 1901, pp. 98–121.

The religion is Animism, and consists in fear of the evil Religion. spirits of the wood, the sea, disease, and ancestors, and in avoidance of acts traditionally displeasing to them. There is neither ceremonial worship nor propitiation. An anthropomorphic deity, Puluga, is the cause of all things; it is not, however, necessary to propitiate him, though acts displeasing to him are avoided for fear of damage to the products of the jungle. Puluga dwells now in the sky, but used to live on the top of Saddle Peak, their highest mountain. The Andamanese have an idea that the soul will go under the earth by an aerial bridge after death, but there is no idea of heaven or hell or any idea of a corporeal resurrection in the religious sense. They have much active faith in dreams, which sometimes control subsequent conduct, and in the utterances of wise men, dreamers of prophetic dreams, gifted with second sight and power to communicate with spirits and to bring about good and bad fortune. These practise an embryonic magic and witchcraft, and profit by things tabued to their use. There are no oaths, covenants or ordeals, nor any forms of appeal to supernatural powers.

Puluga, who is fundamentally to be identified with some definiteness with the storm (*Wuluga*), mixed up with ancestral chiefs, has so many attributes of the Deity that it is fair to translate the term by God. He has a wife and a family of one son and many daughters. He transmits his orders through his

son to his daughters, who are his messengers, the Morowin. He has no authority over the evil spirits, and contents himself with pointing out offenders against himself to them. The two great harmful spirits are Eremchauga of the forest and Juruwin of the sea. Like Puluga, both have wives and families. The minor evil spirits are Nila and a numerous class, the Chol, who are practically spirits of disease. The sun is the wife of the moon and the stars are their children, dwelling near Puluga; but there is no trace of sun-worship, though the people twang their bows and make fun of the moon during an eclipse, while a solar eclipse keeps them silent through fear.

The Andamanese idea of the soul arises out of his reflection in water and not out of his shadow. His reflection is his spirit, which goes after death to another jungle world, Chaitan, under the earth, which is flat and supported on an immense palm-tree. There the spirit repeats its former life, visits the earth occasionally, and has a distinct tendency to transmigrate into other beings and creatures. Every child conceived has had a prior existence; and the theory of metempsychosis appears in many superstitions, notably in naming a second child after a previous dead one, because the spirit of the latter has been transferred to the living one, and in the recognition of all natives of India and the Far East as *chauga*, or persons endowed with the spirits of their ancestors.

The superstitions and mythology of the Andamanese are the direct outcome of their beliefs in relation to spirits. Thus, fire frightens Eremchauga, so it is always carried. They avoid offending the sun and the moon by silence at their rise. Puluga shows himself in storm, and so they appease him by throwing explosive leaves on the fire, and deter him by burning beeswax, because he does not like the smell. Earthquakes are the sport of the ancestors. There are lucky and unlucky actions, but not many, and a few omens and charms. Animals and birds are credited with human capacities. Convicts murdered by Jarawas have been found with heavy stones placed on them, and stones are placed along their pathways. Every Andamanese knows that this is a warning to the birds not to tell the English that the men had been murdered, and that the murderers had passed along the path in front.

The great bulk of the mythology turns on Puluga and his doings with Tomo, the first ancestor, to whom and his wife he brought fire, and taught all the arts, and for whom he created everything. This belief is still alive, and every natural phenomenon is attributed to Puluga. Thus when the Anda-

manese first saw smoke issuing from the top of the volcano, Barren Island, they at once christened it Molatarchona, 'Smoke Island,' and said the fire was Puluga's.

The next most important element in the mythology is the story of the cataclysm which engulfed the islands, and was, of course, caused by Puluga. It separated the population and destroyed the fire, which was afterwards stolen by Laratut, the kingfisher, and restored to the people. The population previous to the cataclysm became the *chauga* or ghostly ancestors.

Other stories relate in a fanciful way the origin of customs—for example, tattooing and dancing—of the arts, articles of food, harmful spirits, and so on. An important ethnological item in these stories is the constant presence of the ideas of metempsychosis and of metamorphosis into animals, fish, birds, stone, and other objects in nature. Indeed, the fauna chiefly known to the Andamanese are considered to be ancestors changed supernaturally into animals.

Rudimentary initiatory customs for both males and females, connected with puberty and nubility, point to a limited tabu, which undoubtedly exists as to food. The ceremonies are few, but non-religious, and without any secret communications. There are limitations as to sexual family relations. The tattooing and the painting of the body with clay, oils, &c., are partly ceremonial. By the material and design are shown sickness, sorrow, festivity, and the unmarried state.

Death ceremonies.

Deaths occasion loud lamentation from all connected with the deceased. Babies are buried under the floor of their parents' hut. Adults are either buried in a shallow grave, or, as an honour, tied up in a bundle and placed on a platform in a tree. Wreaths of cane leaves are then fastened conspicuously round the encampment, and it is deserted for about three months. Burial spots are also sufficiently well marked. Mourning is observed by smearing the head with grey clay, and refraining from dancing for the same period. After some months the bones of the deceased are washed, broken up, and made into ornaments, to which great importance is attached as mementoes of the deceased, and because they are believed to stop pain and cure diseases by simple application to the diseased part. The skull is worn down the back suspended from the neck, usually, but not always, by the widow, widower, or nearest relative. Mourning closes with a ceremonial dance, and the removal of the clay. The ceremonies connected with the disposal of the dead are conventional, reverential, and with some elaboration in detail.

Physical characteristics.

An inquiry, the results of which occupy fifteen manuscript volumes in the libraries of the India Office, Home Department in Calcutta, and British Museum, was made into the physical characteristics of the Andamanese by Mr. M. V. Portman, while some account has been published in Mr. E. H. Man's *Andaman Islanders.* The general result is shown in the following table, which shows that the women are slightly smaller than the men :—

	Height in inches.	Temperature Fahr.	Pulse-beats per minute.	Respiration per minute.	Weight in lb.
Men . .	$58\frac{1}{2}$	99·0°	82	19	96 lb. 10 oz.
Women . .	54	99·5°	93	16	87 lb.

The temperature is high and the breathing is abdominal in both sexes. Males mature at 15, attain full growth at 18, marry about 26, age at about 40, and live on to about 60 or 65. The same figures apply to the women, except that they marry at about 18 and live a little longer. The marriages are infructuous, but barrenness is uncommon. The child-bearing age is from 16 to 35. The people are stark naked, except that the women wear one or more leaves in front and a bunch of leaves tied round the waist behind. They dislike cold but not heat, though they fear sunstroke. They endure thirst, hunger, want of sleep, fatigue, and bodily discomfort badly. A man's load is 40 lb., which he carries 15 miles for a day or two only.

The skin is smooth, greasy, satiny, and sheeny black. The hair is sooty black to yellowish brown. It grows in small rings and, though really distributed evenly over the head, appears to take the form of tufts. The mouth is large, the palate hard and slightly arched, and the lips well formed. The hands and feet are small and well made. The ears are small and well shaped. The eyes are dark to very dark brown, bright, liquid, and clear, but prominent. The teeth are white, good, and free from disease.

The muscular strength is great but the vitality is low, and individuals apparently robust die quickly. Recovery from sickness is usually rapid. Idiocy, insanity, and natural deformities are rare, but epilepsy and homicidal mania occur. No parts of the body are intentionally pierced, injured, or deformed. The flattening of the skull in parts is accidental, and due to the use of straps in carrying weights. The prevalent diseases are climatic and the same as those of alien immigrants. As

among the aliens, malaria is the chief destroyer of life and health.

The figures of the men are muscular and well formed and generally pleasing. A young man is often distinctly good-looking. This is not true of the women, who are liable to early stoutness and ungainliness of figure. Variation from type is much commoner among the men than among the women.

The nerve development is slow, pain is not severely felt, and wounds heal quickly. The sense development is normal, with the exception that vision is more acute than among Europeans.

Mental characteristics.

In childhood the Andamanese are possessed of a bright intelligence, which, however, soon reaches its climax, and the adult may be compared in this respect with the civilized child of ten or twelve. He has never had any sort of agriculture, nor until the English taught him to keep dogs did he ever domesticate any kind of animal or bird, nor did he teach himself to turn a turtle or to use hook and line in fishing. He cannot count, and all his ideas are hazy, inaccurate, and ill-defined. He has never developed unaided any idea of drawing or making a tally or record for any purpose, but he readily understands a sketch or plan when shown him. He soon becomes mentally tired, and is apt to break down physically under mental training.

Throughout life he retains the main characteristics of the child: of very short but strong memory; suspicious of, but hospitable to, strangers; ungrateful; imitative and watchful of his companions and neighbours; vain, and under the spur of vanity industrious and persevering; teachable up to a quickly reached limit; fond of undefined games and practical jokes; too happy and careless to be affected in temperament by his superstitions; too careless, indeed, to store water even for a voyage; plucky, but not courageous; reckless only from ignorance or inappreciation of danger; selfish, but not without generosity, chivalry, and a sense of honour; petulant; hasty of temper; entirely irresponsible and childish in action in his wrath, and equally quick to forget; affectionate; lively in his movements, and exceedingly taking in his moments of good temper. As a rule, the Andamanese are gentle and pleasant to each other; considerate to the aged, the weakly or the helpless, and to captives; kind to their wives, and proud of their children, whom they often over-pet; but when angered, cruel, jealous, treacherous, and vindictive, and always unstable. They are

bright and merry companions; talkative, inquisitive, and restless; busy in their own pursuits; keen sportsmen and naturally independent, absorbed in the chase from sheer love of it and other physical occupations; and not lustful, indecent, or indecently abusive.

As years advance they are apt to become intractable, masterful, and quarrelsome; a people to like but not to trust. Exceedingly conservative and bound up in ancestral custom, not amenable to civilization; all the teaching of years bestowed on some of them has introduced no abstract ideas among the tribesmen, and changed no habit in practical matters affecting comfort, health, and mode of life. Irresponsibility is a characteristic, though instances of a keen sense of responsibility are not wanting.

The intelligence of the women is good, though not as a rule equal to that of the men. In old age, however, they frequently exhibit a considerable mental capacity which is respected. Several women trained in a former local mission orphanage from early childhood have shown much mental aptitude and capacity, the savagery in them, however, only dying down as they grew old. They can read and write well, understand and speak English correctly, have acquired European habits completely, and possess much shrewdness and common sense. The highest general type of intelligence yet noticed is in the Jarawa tribe.

Social characteristics. Food.

The food consists of fish, pork, turtle, iguana, 'wild cat' (*Paradoxurus sp.*), shell-fish, turtle eggs, certain larvae, and a great variety of fruit, seeds, roots, and honey, and is plentiful both by sea and land. The people never starve, though they are habitually heavy eaters. Food is always cooked, and commonly eaten very hot. As much as possible of an animal is eaten, and the Andamanese, like most hunters, have found out the dietary value of tripe. They are expert cooks, and adepts at preparing delicacies from parts of animals and fish.

Dwellings.

Except in the Little Andaman and among the Jarawas there are no fixed habitations, the search for easily obtained food and insanitary habits obliging the people to be nomads. They dwell in various customary encampments, situated within their respective territories. At these encampments, usually fixed in sheltered spots, they erect about fourteen temporary huts, capable of holding fifty to eighty persons, and arranged facing inwards on an oval plan, always more or less irregular.

The central space is the dancing ground. A hut is merely a thatch about 4 feet long by 3 feet wide, sloping from 8 inches

behind to $4\frac{1}{2}$ feet in front, placed on four uprights and some cross-pieces, without walls. In unsheltered spots and at the head-quarters of septs large circular huts are built with a good deal of ingenuity, having eaves nearly touching the ground. These may be as much as 15 feet high and 30 feet in diameter. For hunting purposes mere thatched shelters are erected for protection from the wind. Close to every hut is a very small platform for surplus food, about 18 inches from the ground, and within it at least one fire is carefully preserved. This is the only thing that the Andamanese are really careful about; for they do not know how to produce fire, though they show much skill in carrying smouldering logs by land or sea so that they are not extinguished.

In the Little Andaman, and among the Jarawas of the South Andaman, large permanent huts for use in the wet season are built up of solid materials, to 30 feet in height and 60 feet in breadth, to hold the fires of seven to eight hunting parties, with about eight persons to each hearth. The Jarawa hunting camp is much the same as that of any other Andamanese, and his great communal hut is built on the same principle as the larger huts of the other tribes.

Games.

The Andamanese are childishly fond of games, and have an indigenous blind-man's-buff, leapfrog, and hide-and-seek. Mock pig and turtle hunts, mock burials, and ghost-hunts are favourite sports. Matches in swinging, swimming, throwing, skimming (ducks and drakes), shooting (archery), and wrestling are practised.

Amusements.

The great amusement of the Andamanese, indeed their chief object in life after the chase, is, however, the formal evening or night dance, a curious monotonous performance accompanied by drumming the feet rhythmically on a special sounding-board like a Crusader's shield, and mistaken for a shield by several observers; singing a song more or less impromptu, and of a compass limited to four semitones and the intermediate quarter tones, and clapping the hands on the thighs in unison. The dance takes place every evening whenever there are enough people for it, and lasts for hours, and even all night at special meetings of the tribes or septs. It then becomes ceremonial, and is continued for several nights in succession. Both sexes take allotted parts in it. This and turtle-hunting are the only things which will keep the Andamanese awake all night long. There are five varieties of the dance among the tribes, that of the Onge-Jarawas being an entirely distinct performance.

Family system.

The salient points in the family system may be described as follows. The duties of men and women are clearly defined by custom, but not so as to make those of women comparatively hard. The women have a tacitly acknowledged inferior position, but it is not such as to be marked or to leave them without influence. They are bright and merry even into old age, and are under no special social restrictions. In old age they are much respected.

Marriage relations.

The Andamanese are monogamous, and by preference, but not necessarily, exogamous as regards sept and endogamous as regards tribe or, more strictly, group. Divorce is rare, and unknown after the birth of a child; while unfaithfulness after marriage, which entails the murder of both the guilty parties if practicable, is not common, and polyandry, polygamy, bigamy, and incest are unknown. Marriages are not religious, but are attended with distinct ceremonies. Marriage after the death of one party or divorce is usual. Before marriage free intercourse between the sexes within the exogamous limits is the rule, though some conventional precautions are taken to prevent it.

Marriages are the business of parents or guardians, who have a right to betroth children, the betrothal being regarded as a marriage. Marital relations are somewhat complicated, and as strictly observed as among civilized communities. Old books on this point generally ascribe bestiality and promiscuity to the race, but quite wrongly. There is no caste feeling, and tribes will, in circumstances favouring it, intermarry, and adopt each other's children. Within the tribe there is so general a custom of adoption that children above six or seven rarely live with their own parents.

Family relations in daily life are subject to limitations. Only husband and wife can eat together. Widows and widowers, bachelors and maidens, eat with their own sex only. A man may not address directly a married woman younger than himself, nor touch his wife's sister, nor the wife of a younger relative, and vice versa. All this creates a tendency towards the herding together of the women.

Social emotions.

The social emotions are not generally expressed. The Andamanese have no words for ordinary salutations, greeting, or for expressing thanks. On meeting they stare at each other for a lengthened period in silence, which the younger breaks with a commonplace remark, and then follows an eager telling of news, which an Andamanese always delights in hearing. Relatives, however, sit in each

other's laps at meeting, huddled closely together, weeping loudly and demonstratively, and after a long separation this may last for hours. The Onges are less demonstrative, and on such occasions shed a few silent tears only, and caress each other with their hands. At parting they take each other by the hand and blow on it, exchanging sentences of conventional farewell. Undemonstrative though they are, the Andamanese are readily moved to emotion, finding that difficulty in separating the real from the assumed which is observed in other savages.

Every child is named for life by the mother after one of about twenty conventional names, without reference to sex, immediately upon pregnancy becoming evident. To this is subsequently added a nickname varying occasionally as life proceeds, derived from personal peculiarities, deformities, disfigurements, or eccentricities, or sometimes from flattery or reverence. Girls also receive 'flower names' after one of sixteen selected trees which happen to be in flower at the time they reach puberty. The honorifics *maia* and *mam* are prefixed out of respect to the names of elderly males, and *chana* to all names of married women. Girls are addressed by the 'flower name,' and the elders by the honorific. Names are not much used in addressing, but chiefly for naming the absent, or in calling. Nomenclature.

The great objects of life are hunting for food and dancing at night. All other occupations and all industries arise out of the personal necessities of the people. They make their own weapons, bows and arrows, harpoons and spears, string and nets of string, baskets and mats, unglazed circular cooking-pots, bamboo baskets and canoes hollowed out of tree-trunks. The ornamentation is crude, but customary and conventional. Their implements are quartz flakes chipped off, but never worked, *cyrena* valves and natural stones, never celts. Lately ends of glass bottles and iron from wrecks have been used in place of quartz flakes and *cyrena* valves. Excellent information, with illustrations of the domestic and other arts, is to be found in a minutely accurate work, Man's *Aboriginal Inhabitants of the Andaman Islands*. Industries.

The modes of communication by land and sea are natural. The people are good climbers and rapid walkers and runners, moving with a free and independent gait, and can travel considerable distances at a time. The Eremtaga are good, but not remarkable, trackers. The Aryoto are good swimmers, and are much at home in the water. They show a dexterity Communications.

in getting about the thick and tangled jungles which baffles all immigrants. They are unadventurous seamen, poling and paddling canoes at considerable speed; but they never go out of sight of land, have never been even to the Cocos (30 miles), nor to Narcondam and Barren Island, nor had they even any knowledge of the existence of the Nicobars before the British occupation.

Tribal administration.

There is no idea of government; but each tribe and each sept has a recognized head, who has attained that position by tacit agreement on account of some admitted superiority, mental or physical, and commands a limited respect and such obedience as the self-interest of the other individuals of the tribe or sept dictates. A tendency exists to hereditary right in the natural selection of chiefs, but there is no social status that is not personally acquired. The social position of the chief's family follows that of the chief himself, and admits of many privileges in the shape of tribal influence and immunity from drudgery. His wife is among women what he is himself among men; and at his death, if a mother and not young, she retains his privileges. Age commands respect, and the young are deferential to elders. Offences, such as murder, theft, adultery, mischief, and assault, are punished by the aggrieved party on his own account by injury to the body and property, or by murder, without more active interference on the part of others than is consistent with their own safety, and without any fear of consequences except vengeance from the friends of the other side, and even this is usually avoided by disappearance till the short memory of the people has obliterated wrath.

Property is communal, as is all the land, and ideas as to individual possessions are but rudimentary, accompanied with an incipient tabu of the property belonging to a chief. An Andamanese will often part readily with ornaments to any one who asks for them. Theft, or the taking of property without leave, is only recognized as to things of absolute necessity, as arrows, pork, or fire. A very rude barter exists between tribes of the same group in regard to articles not locally obtainable or manufactured. This applies particularly to cooking-pots, which are made of a special clay found only in certain parts of the islands. The barter is really a gift of one article in expectation of another of assumed corresponding value in return, and disputes occur if it is not forthcoming. The territory of other tribes is carefully respected, without, however, there being any fixed boundaries.

Since the establishment of the Penal Settlement in 1858 a home has been opened in Port Blair for the use of the aborigines, a free asylum to which any Andamanese is admitted. He may stay as long as he pleases, and go when it suits him. While there he is housed, fed and taken care of, and for the sick there is a good and properly maintained hospital. From the home, too, are taken small necessaries and luxuries to friends at a distance. In return, the residents in the home are employed to help in catching runaway convicts, in collecting edible birds'-nests and trepang and other natural produce, and in making curios, the small income derived from which is expended on them. They have never acquired any true idea of money for themselves, and all their earnings have to be administered for them. It is, indeed, against local rules to give them money, as it is immediately spent in intoxicants. The present policy, in short, is to leave them alone, but to do what is possible in the conditions to ameliorate their lives. The administrative objects gained by establishing friendly relations with the tribes are the cessation of the former murder of shipwrecked crews, the external peace of the Settlement, and the creation of a jungle police to prevent escapes of convicts and secure the recapture of runaways. Relations with the British.

In the days of Blair and Kyd, 1780–96, the tribes showed themselves almost uniformly hostile, despite the conspicuous consideration these early officials exhibited, and remained continuously so after the re-establishment of the Settlement in 1858, attacking working parties of convicts, just as the Jarawas do still, for iron and articles suitable to them, and robbing the gardens started for food supplies. These practices were repressed by force, and efforts towards friendly relations had to be postponed until respect for the settlers was established. The procedure then officially adopted, and carried out with such success by Messrs. Corbyn, Homfray, Man, Godwin-Austen, and Portman in succession, was the simple one of providing the home and visiting the people in their own haunts, as opportunity arose, with suitable presents.

[*Selections from the Records of the Government of India, Home Department*, No. XXV (Calcutta, 1859).—F. J. Mouat: *Adventures and Researches among the Andaman Islanders* (1863).—E. H. Man: *Aboriginal Inhabitants of the Andaman Islands* (1883); many references to older writers.—R. D. Oldham: 'Notes on the Geology of the Andaman Islands,' in *Records of the Geological Survey of India*, vol. xviii, p. 135 (Calcutta, 1885); geological map.—M. V. Portman: *Notes on* Bibliography.

the Languages of the South Andaman Group of Tribes (Calcutta, 1898); many references to older writers.—M. V. Portman: *Records of the Andamanese* in MS. in India Office Library, Home Department Library, Calcutta, and the British Museum (1893–8).—M. V. Portman: *History of our Relations with the Andamanese* (Calcutta, 1899); many references to older writers.—B. C. Kloss: *In the Andamans and Nicobars* (1902).—Sir R. C. Temple: *Census Report*, 1901, *on the Andaman and Nicobar Islands* (1903).

Physical aspects.

Nicobars.—A group of islands in the Bay of Bengal, forming part of the ANDAMANS AND NICOBARS. The islands are nineteen in number, twelve being inhabited. The extreme length of space occupied is 163 miles, and the extreme width 36 miles. The names and dimensions are as follows:—

Geographical name.	Native name.	Area in square miles.
Car Nicobar	Pu	49·02
* Batti Malv	Et	0.80
Chowra	Tatat	2·80
* Tillanchong	Laok	6·50
Teressa	Taihlong	34·00
Bompoka	Poahat	3·80
Camorta	Nankauri	57·91
Trinkat	Laful	6·40
Nancowry	Nankauri	19·32
Katchall	Tehnyu	61·70
* Meroe	Miroe	0·20
* Trak	Fuya	0·10
* Treis	Taan	0·10
* Menchal	Menchal	0·50
Little Nicobar	Ong	57·50
Pulo Milo	Miloh	0·40
Great Nicobar	Loöng	333·20
Kondul	Lamongshe	0·50
* Cabra	Konwana	0·20
Total area	...	634·95

NOTE.—The names starred in the table indicate the islands that are uninhabited.

Origin of name.

The Nicobars seem always to have been known as the 'Land of the Naked' to travellers, which term in the Indian tongues took the form of Nakkavār, the direct ancestor of the modern 'Nicobar.' The mediaeval Arabic name 'Lankhabālūs' is a mere mistranscription and misapprehension of 'Nankabar' or 'Nakkavār.' The geographical names for the different islands have all obscure, complicated, and interesting histories.

Hills.

The hills vary greatly in the several islands. The chief summits are on Teressa, Bompoka, Tillanchong, Camorta, Nancowry, Katchall, Great and Little Nicobar. The only hills

over 1,000 feet are on Tillanchong and Great and Little Nicobar. The highest, Mount Thuillier, is on Great Nicobar, 2,105 feet; while three peaks on Little Nicobar reach from 1,353 feet to 1,428 feet.

The Nicobars generally are badly off for fresh surface water; on Car Nicobar there is hardly any, though water is easily obtained by digging. The only island with rivers is Great Nicobar, on which are considerable and beautiful streams: Galathea (Dak Kea), Alexandra (Dak Anaing), and Dagmar (Dak Tayal). Rivers and streams.

There is one magnificent land-locked harbour formed by Camorta, Nancowry, and Trinkat, called Nancowry Harbour, and a small one between Pulo Milo and Little Nicobar. The other anchorages are mere roadsteads. Harbours.

A considerable variety of scenery is presented by the several islands. Thus, from north to south, Car Nicobar is a flat coral-covered island; Chowra is also flat, with one remarkable table hill at the south end (343 feet); Teressa is a curved line of hills rising to 867 feet; and Bompoka is one hill (634 feet), said by some to be volcanic; Tillanchong is a long, narrow hill (1,058 feet); Camorta and Nancowry are both hilly (up to 735 feet); Trinkat is quite flat; Katchall is hilly (835 feet), but belongs to Great and Little Nicobar in general form, differing much from the others of the central group; Great and Little Nicobar are both mountainous, the peaks rising to 1,428 feet in the Little, and to 2,105 feet in the Great Nicobar. Car Nicobar is thoroughly tropical in appearance, showing a continuous fringe of coco-nuts; but a high green grass is interspersed with forest growth on Chowra, Teressa, Bompoka, Camorta, and Nancowry, giving them a park-like and, in places, an English look. Katchall and Great and Little Nicobar have from the sea something of the appearance of Sardinia seen from the Straits of Bonifacio. The scenery is often fine, and in some places of exceeding beauty, as in the Galathea and Alexandra rivers and in Nancowry Harbour. Scenery.

Geological knowledge of the Nicobars depends mainly on the observations of three scientific visitors, who did not, however, explore the islands: Dr. Rink of the *Galathea* (Danish) Expedition in 1846, Dr. Von Hochstetter of the *Novara* (Austrian) Expedition in 1858, and Dr. Valentine Ball in 1869. These observers are not in entire agreement. Geology.

The sandstones and shales of the southern islands are apparently similar to those distinguished as the Port Blair series in the Andaman Islands, and in both areas poor lignitic

coal is found in the series. The clay stones and associated conglomerates of Camorta, Nancowry, and Trinkat are probably the same formation as that recognized in the Andaman (Ritchie's) Archipelago. Von Hochstetter connected the whole group geologically with the great islands of the Asiatic Archipelago farther south. From his observations the following instructive table has been drawn up, indicating the relation of geological formations to soil and vegetation, and showing how the formations have affected the appearance of the islands:—

Geological character of the underlying rock.	Character of the soil.	Character of the forest vegetation.
Salt and brackish swamp, damp marine alluvium.	Uncultivable swamp.	Mangrove.
Coral conglomerate and sand, dry marine alluvium.	Fertile calcareous soil, carbonate and phosphate of lime.	Coco-nut.
As above, with dry fresh-water alluvium.	Fertile calcareous sandy soil.	Large trees.
Fresh-water swamp and damp alluvium.	Cultivable swamp.	*Pandanus*.
Plastic and magnesian clay, marls; partially serpentine.	Infertile clay; silicates of alumina and magnesia.	Grassy, open land.
Sandstone, slate, gabbro, dry river alluvium.	Very fertile; loose clay and sand, rich in alkalis and lime.	Jungle; true primaeval forest.

Small traces of copper have been found in the igneous rocks, and the presence of tin and amber has been reported, but not confirmed scientifically. The white clay or marls of Camorta and Nancowry have become scientifically famous as being polycistina marls like those of Barbadoes.

Botany. Although the vegetation of the Nicobars has received much desultory attention from scientific observers, it has not been subjected to a systematic investigation by the Indian Forest department like that of the Andamans. In economic value the forests of the Nicobars are quite inferior to the Andaman forests; and, so far as known, the commercially valuable trees, besides fruit-trees, such as the coco-nut, betel-nut, and *mellori* (*Pandanus Leram*), are a thatching palm (*Nipa fruticans*) and a few timber trees, of which only that known as black *chuglam* in the Andamans (*Myristica Irya*) would be there classed as a first-class timber. Six other timber trees, known to exist, would be classed in the Andamans as second-class and one as a third-class timber. Dammer, from a *Dipterocarpus*, and rattans are among the minor products of the forests. The palms are exceedingly graceful, especially the beautiful *Ptychoraphis*

augusta, usually sold in England as a *cocos*. Large clumps of casuarina and great tree-ferns are also striking features of the landscape in places.

In the old missionary records are frequently mentioned instances of the introduction of foreign economic plants. In this matter the people have been apt pupils; and nowadays a number of familiar Asiatic fruit-trees are carefully and successfully cultivated, including pummelos (the largest variety of the orange family), lemons, limes, oranges, shaddocks, *papayas*, *bael*-fruit (wood-apple), custard apples, bullock's hearts, tamarinds, jacks, and plantains; besides sugar-cane, yams, edible colocasia, pineapples, and capsicum. A diminutive orange, said to come from China and to have been introduced by the Moravian missionaries, is now acclimatized. It is quite possible also that with the missionaries came the peculiar zigzag garden fence of the northern islands. During the long commerce of the people a number of Indian weeds (*Malvaceae* and *Compositae*) have been introduced, including *Datura*, *Solanum*, *Flemmingia*, *Mallotus*, *Mimosa*, &c.

There are no indigenous dangerous wild animals, but on Camorta buffaloes and some cattle left by the missionaries have become wild. On Great and Little Nicobar, and elsewhere in places, crocodiles are found in the rivers and on the coasts, while monkeys occur on Great and Little Nicobar and Katchall, but not elsewhere. The marine and land fauna have generally the character of those of the Andamans, though, while the latter are closely allied to Arakan and Burma, the Nicobars display more affinities with Sumatra and Java. The land fauna, owing to greater ease in communications, has been better explored than in the Andamans. The economic zoology also resembles that of the Andamans. Coral, trepang, cuttle-bones, sea-shells, oysters, pearls, pearl-oysters, turtle and tortoise-shells, and edible birds'-nests are obtained in both groups of islands. In the Nicobars a somewhat inferior quality of bath sponge is also found. **Fauna.**

The climate generally is that of islands of similar latitude: very hot, except when raining; damp, subject to rain throughout the year, generally in sharp heavy showers; unwholesome for Europeans, and in places dangerously malarious. The weather is generally unsettled, especially in the south. The islands are exposed to both monsoons, with easterly and north-easterly gales from November to January, and south-westerly gales from May to September; smooth weather is experienced only from February to April and in October. The normal baro- **Climate.**

metric readings (five years in Nancowry Harbour) vary between 29·960 and 29·797, being highest in January and lowest in June.

Temperature.

Statistics are scanty as regards temperature. They were kept up for fifteen years (1874–88) in Nancowry Harbour while the Penal Settlement lasted, and were commenced on Car Nicobar in 1898. The following tables give the main features, in degrees F.

NANCOWRY HARBOUR

	1884.	1885.	1886.	1887.	1888.
Mean highest in shade . .	May 91·3	April 91·6	April 91·9	July 86·5	April 91·2
Mean lowest in shade . .	Dec. 74·5	Dec. 73·3	Dec. 71·8	Feb. 72·2	Jan. 72·2
Highest in shade	May 92·2	May 95·4	Aug. 98·2	April 90·6	May 97·4
Lowest in shade	July 70·3	Sept. 71·0	Dec. 64·0	Mar. 66·4	Jan. 68·8
Dry bulb mean.	July 83·3	Sept. 84·4	Dec. 84·0	Mar. 82·7	Jan. 83·9
Wet bulb mean.	July 77·5	Sept. 78·1	Dec. 76·6	Mar. 77·2	Jan. 77·8

CAR NICOBAR

	1898.*	1899.	1900.	1901.†
Mean highest in shade .	Sept. 84·4	May 88·7	July 88·6	April 91·6
Mean lowest in shade .	Sept. 76·7	April 77·8	Feb. 77·6	Oct. 74·6
Highest in shade .	Sept. 88·0	March 92·2	April 93·5	April 92·3
Lowest in shade . .	Nov. 70·7	Feb. 66·0	March 66·8	Jan. 71·6
Dry bulb mean . .	Nov. 79·3	Feb. 83·2	March 83·8	Jan. 84·2
Wet bulb mean . .	Nov. 77·2	Feb. 73·6	March 73·0	Jan. 74·0

* The observations in 1898 are available only from September 1 to December 31.
† In 1901 the observations are available only up to October 31.

Rainfall.

The rainfall varies much from year to year. The following statistics are available:—

NANCOWRY HARBOUR

	1884.	1885.	1886.	1887.	1888.
Most wet days in a month	May . 21	July . 23	Nov. . 23	May . 27	Sept. . 22
Heaviest fall in a month	May 21·75	Dec. 17·90	Nov. 25·23	Nov. 20·41	Oct. 27·65

CAR NICOBAR *

	1898.	1899.	1900.	1901.
Most wet days in a month . . .	Oct. . 18	June . 26	May . 20	Sept. . 22
Heaviest fall in a month . . .	Sept. 11·38	June 20·96	May 15·79	Sept. 19·77

* The same remarks apply to this table as to the temperature table for Car Nicobar.

Between 1874 and 1888 the wettest year in Nancowry Harbour was 1887 with 165 inches of rain, and the driest 1885 with 93 inches. The two full years of observation at Car Nicobar (1889–1900) showed 104 and 106 inches of rain respectively.

Cyclonic storms. Cyclones occasionally visit the islands. Recorded instances are in May, 1885, and in March, 1892.

Earthquakes. As the Nicobars apparently lie directly in the local line of greatest weakness, severe earthquakes are to be expected, and have occurred at least three times in the last sixty years. Shocks of great violence are recorded in 1847 (October 31 to December 5), in 1881, with tidal waves (December 31), and milder shocks in 1899 (December). The tidal waves caused by the explosion of Krakatoa in the Straits of Sunda in August, 1883, were severely felt.

History. Like the Andamans, the existence of the Nicobars has been known from the time of Ptolemy onwards; but unlike the Andamans, there is as long a history of European occupation as of other parts of the Eastern seas. The Nicobars began to attract the attention of missionaries in the seventeenth century at least, and probably much earlier, as the missionary Haensel speaks of *pater* as 'sorcerer' and Barbe of *deos* and *reos* as 'God,' indicating survivals of Portuguese missionaries. As early as 1688 Dampier mentions that two (probably Jesuit) 'fryers' had previously been there 'to convert the Indians.' Next we have the letters (in *Lettres Édifiantes*) of the French Jesuits, Fauré and Taillandier, in 1711. In 1756 the Danes took possession of the islands to colonize, but employed the wrong class of men. The colony, affiliated to Tranquebar, had perished miserably by 1759. The Danes then invited the Moravian Brethren to try their hands at conversion and colonization, and thus in due time commenced the Moravian (Herrnhuter) Mission, which lasted from 1768 to 1787. It did not flourish; and the Danish East India Company, losing heart, withdrew in 1773, and left the missionaries to a miserable fate. In 1778, by persuasion of an adventurous Dutchman, William Bolts, the Austrians appeared, but their attempt failed after three years. This offended the Danes, and from 1784 till 1807 they kept up a little guard in Nancowry Harbour. In 1790 and 1804 fresh attempts by isolated Moravian missionaries were made. From 1807 to 1814 the islands were in British possession during the Napoleonic Wars, and were then handed back by treaty to the Danes. During this time an Italian Jesuit arrived from Rangoon, but soon returned. In 1831 the Danish pastor Rosen, from Tranquebar, again tried to colonize,

but failed for want of support and left in 1834. By 1837 his colony had disappeared, and the Danes officially gave up their rights in the place. In 1835 French Jesuits arrived in Car Nicobar (where the Order claim to have succeeded 200 years previously), and, though suffering great privation, remained in Teressa, Chowra, and elsewhere till 1846, when they too disappeared. In 1845 the Danes sent Busch in an English ship from Calcutta to resume possession, who left a good journal behind him, and in 1846 took place the scientific expedition in the *Galathea*, with a new and unhappy settlement scheme. In 1848 the Danes formally relinquished sovereignty and finally removed all remains of their settlement. In 1858 the Austrian ship *Novara* brought a scientific expedition and a scheme for settlement, which came to nothing. In 1867 Franz Maurer strongly advised the Prussian Government to take over the islands; but in 1869 the British Government, after an amicable negotiation with the Danish Government, took formal possession, and established in Nancowry Harbour, subordinate to that at the Andamans, a Penal Settlement which was withdrawn in 1888. In 1886 the Austrian corvette *Aurora* visited Nancowry, and produced a report and also a series of well-illustrated articles by its surgeon, Dr. W. Svoboda. At present native agencies are maintained at Nancowry Harbour and on Car Nicobar, both of which places are gazetted ports. At Car Nicobar is a Church of England mission station, under a native Indian catechist attached to the diocese of Rangoon; the only one that has not led a miserable existence. The islands since 1871 have been included in the Chief Commissionership of the Andaman and Nicobar Islands.

The long story of European attempts to colonize and evangelize such a place as the Nicobars is a record of the extreme of useless suffering that merely well-intentioned enthusiasm and heroism can inflict, if they be not combined with practical knowledge and a proper equipment. Nevertheless, the various missions have left behind them valuable records of all kinds about the country and its people: especially those of Haensel (1779–87, but written in 1812), Rosen (1831–4), Chopard (1844), and Barbe (1846). Scattered English accounts of the islands are also to be found in many books of travel almost continuously from the sixteenth century onwards.

British Penal Settlement.

Despite the nominal occupation of the country by Europeans for so long, the inhabitants, even of Nancowry Harbour, have been systematic pirates; and a long list of authentic cases

exists in which traders and others of all nationalities have been murdered, wrecked, and plundered even in quite recent times. The immediate object of the British occupation was to put a final stop to this, and in the nineteen years during which the Penal Settlement was maintained it was effectually accomplished. There is now no fear of a recrudescence of piracy.

The Penal Settlement in Nancowry Harbour consisted on the average of about 354 persons: 2 European and 2 other officers; garrison, 58; police, 22; other free residents, 35; convicts, 235. They were employed on public works similar to those in the Andamans. The health was never good, but sickness was kept within limits by constant transfer to the Andamans. Individual health, however, steadily improved, and there is no doubt that in time sanitary skill would have made the sick-rate approach that of the Andamans. The first year of residence was always the most sickly, partial acclimatization being quickly acquired. Some officers stayed two to three years. Mr. E. H. Man was in actual residence, at intervals, for six and a half years. Some of the free people remained several years: convicts usually three, and sometimes voluntarily from five to fifteen years without change. With the precautions taken, the sick-rate at the Nicobar Penal Settlement did not compare unfavourably with that at the Andamans at its close in 1888. The story of the Settlement was well told by Mr. E. H. Man in a final report, which is printed at p. 188 of the *Census Report* for 1901.

Like all the other Governments which held an interest in the islands, the British tried a colony in 1884, which failed. But the attempt drew from the most experienced officer there, Mr. Man, the following advice of value, considering the perennial interest in these islands betrayed by European speculators:— British colonization.

'To colonize the Nicobars employ Chinese; send them to Great Nicobar; employ agriculturists who are not opium-users; maintain quick and frequent communication with the Straits Settlements; assist the colonists in transporting their families: provide them with ready means of procuring food, clothing, medicines, tools, and implements.'

A large capital and much perseverance would always be necessary for exploiting the Nicobars with any hope of success.

The indigenous population increased slightly from 5,942 in 1883 to 5,962 in 1901, when the total population was 6,511. The people.

The Nicobarese are not divisible into tribes, but there are distinctions, chiefly territorial. Thus, they may be fairly Race and its divisions.

divided into six groups: the people of Car Nicobar, Chowra, Teressa with Bompoka, the Central Group, the Southern Group, and the single inland tribe of the Shom Pen on Great Nicobar. The differences to be observed in language, customs, manners, and physiognomy of the several groups may, with some confidence, be referred to habitat and the physical difficulties of communication. There is, however, nothing in their habits or ideas to prevent admixture of the people, for both intermarriage and mutual adoption are as freely resorted to as circumstances will admit.

The ethnological interest attaching to the Shom Pen lies in the fact that, owing to their fear of the coast people of the Great Nicobar, and indeed of each other at a little distance from their houses, and the sterility of known crosses between them and the coast people, they probably represent the race in its purest form. It is also necessary to affirm distinctly that they are Nicobarese pure and simple; for so lately as in Yule's edition of Marco Polo it is stated, partly on the authority of a former Chief Commissioner, that they were an aboriginal people like the Andamanese. There is no radical difference between a Shom Pen and any other Nicobarese. The differences are merely such as are to be expected among people living an almost isolated existence.

Language. The Nicobarese dialects have been subjected to more or less elaborate study by missionaries and others since 1711, culminating in Man's excellent *Dictionary of the Central Nicobarese Language* (1889), with Grammar attached. The Linguistic Survey has quite recently determined that Nicobarese belongs to the Mon-Khmer family. The language is spoken in six dialects, which have now become so differentiated in details as to be mutually unintelligible, and to be practically, so far as actual colloquial speech is concerned, six different languages. These are limited in range by the islands in which they are spoken: Car Nicobar (3,451); Chowra (522); Teressa with Bompoka (702); Central—Camorta, Nancowry, Trinkat, Katchall (1,095); Southern—Great Nicobar coasts and Kondul, Little Nicobar, and Pulo Milo (192); Shom Pen, inland tribe of Great Nicobar (348).

The Nicobarese are natural linguists. Only a century ago Portuguese was the trade language of the islands, with a sprinkling of Danish, German, and English. Malay and Chinese were both spoken before Portuguese; and now English, Burmese, and Hindustāni are well understood. The women know only their own language, and are dumb before

all strangers. And here as elsewhere among polyglot peoples, natives of different islands have to converse in a mutually known foreign tongue—e.g. Hindustāni, Burmese, Malay, or English—when unable to comprehend each other's dialects. There is a custom of tabu, which in the Nicobars, as elsewhere when it is in vogue, has seriously affected the language at different places. Any person may adopt any word in the language, however essential or common, as his or her personal name, and when he or she dies it is tabued for a generation, for fear of summoning the ghost. The Nicobarese speech is slurred and indistinct; but there is no abnormal dependence on tone, accent, or gesture to make the meaning clear. The dialects are, as might be expected, rich in specialized words for actions and concrete ideas, but poor in generic and abstract terms.

Nicobarese is a very highly developed analytical language, with a strong resemblance in grammatical structure to English. It bears every sign of a very long continuous growth, both of syntax and etymology, and is clearly the outcome of a strong intelligence constantly applied to its development. Considering that it is unwritten and but little affected by foreign tongues, and so has not had extraneous assistance in its growth, it is a remarkable product of the human mind. There is no difference in the development of the different dialects. The speech of the wild Shom Pen is as advanced in its structure as that of the trading Car Nicobarese.

The growth of the language has been so complicated, and so many principles of speech have been partially adopted in building it up, that nothing is readily discoverable regarding it. The subject and predicate are not immediately perceptible, nor are principal and subordinate sentences. The sentences cannot be analysed correctly at once, nor can the roots of the words be separated without great care from the overgrowth. Neither syntax nor etymology is easy, and correct speech is very far from being readily attained.

Grammatically, the point to bear in mind is the order of the words, which is practically the English order, especially as functional inflexion is absent to help the speaker to intelligibility, and there is nothing in the form of the words to show their class, whether nouns, verbs, adjectives, and so on. Prepositions, conjunctions, auxiliaries, adverbs, and the particles of speech are freely used, and so are elliptical sentences. Compound words and phrases, consisting of two or more words thrown together and used as one word, are unusually

common, and the languages show their Far-Eastern proclivities by an extended use of 'numeral coefficients.'

The great difficulty lies in the etymology. Words are built up of roots and stems, to which are added prefixes, infixes, and suffixes, both to make the classes of connected words, and to differentiate connected words when of the same class: i.e. to show which of two connected words is a verb and which a noun, and to mark the difference in the sense of two connected nouns, and so on. But this differentiation is always hazily defined by the forms thus arrived at, and the presence of a particular classifying affix does not necessarily define the class to which the word belongs. So also the special differentiating affixes do not always mark differentiation.

Again, the affixes are attached by mere agglutination, in forms which have undergone phonetic change, and by actual inflexion. Their presence, too, not infrequently causes phonetic change in, and inflexion of, the roots or stems themselves.

The chief peculiarity of the language lies in a series of 'suffixes of direction,' indicating the direction (north, south, east, west, above, down, below, or at the landing-place) of any action, condition, or movement. But even suffixes so highly specialized as these are not by any means exclusively attached to words the sense of which they can and do affect in this way.

Only by a deep and prolonged study of the language can one learn to recognize a root, or to perceive the sense or use of an affix; and only by prolonged practice could one hope to speak or understand it correctly in all its phases. Nicobarese is, in this sense, indeed a difficult language.

Religion. The religion of the Nicobarese is an undisguised Animism, and the whole of their very frequent and elaborate ceremonies and festivals are aimed at exorcising and scaring spirits. Fear of spirits and ghosts (*iwi*) is the guide to all ceremonies, and the life of the people is very largely taken up with ceremonies and feasts of all kinds. These are usually held at night, and whether directly religious or merely convivial, seem all to have an origin in the overmastering fear of spirits that possesses the Nicobarese. It has so far proved ineradicable; for two centuries of varied and almost continuous missionary effort have had no appreciable effect on it, if some of the Creation stories recorded from the southern group by De Roepstorff, and the terms learnt from the missionaries still surviving among some of the Central Group islanders, be excluded. A few rosaries existed a generation ago in Nancowry Harbour. The only outcome of the religion of the Nicobarese of political import

is the ceremonial execution for grave offences against the community, such as murder, habitual theft, or public annoyance. A person so offending is regarded as being possessed and is formally put to death with great cruelty. This is the 'devil murder' of the Nicobars, now being gradually suppressed. Witches and, of course, witch-finders abound. The superstitions and animistic beliefs of the Nicobarese explain a good many articles to be seen prominently about their houses and villages. It follows that the mind of the Nicobarese is largely occupied with superstitions, which relate to the ancestors, the sun, and the moon. The funeral ceremonies show that human shadows are the visible signs of the spirits of the living, and on Car Nicobar there is a special ceremony for 'feeding shadows.' Every misfortune and sickness is caused by spirits or witches, especially that scourge of Chowra, elephantiasis; and the remedy in every case is a special exorcism by means of the *menluana*, or doctor-priests, or general exorcism performed privately. This last class of remedy includes the libation, which is always poured out before drinking and at spirit feasts. Lucky and unlucky actions and conditions naturally abound, and it is lucky to get a pregnant woman and her husband to plant seed in gardens. Uneven numbers are unlucky, and no others are allowed at funerals.

There seems to be an embryonic invocation of supernatural punishment, an idea so much developed in the *traga* and *dharna* of India. Thus, setting fire to their own huts and property is one way of showing shame or disgust at the misconduct of relatives and friends; and Offandi, the chief of Mus, in Car Nicobar, once attempted to dig up his father's bones before they were transferred to the ossuary, and to throw them into the sea, because an important villager had called his father a liar.

The spirit feast is a general exorcism, performed by the family and friends, with the aid of the *menluana*. The men sit smoking and drinking; and the women bring from the family stock provisions, implements, weapons, and curiosities, which last, after a good howl, they break up and throw outside the house. A large specially fattened pig is then roasted whole, and divided between the ancestors and the party, chiefly the latter. By this the spirits are mollified. The *menluana* now commence their business, worked up to an ecstasy by drink and their mysteries. Their faces are painted red and they are rubbed with oil. They sing dolefully in a deep bass

voice, and rush about to catch the *iwi*, or spirit of harm, and coax, scold, and abuse him, accompanied by a tremendous howl from the women, till after a struggle he is caught and put into a small decorated model of a boat, and towed far out to sea. Being now safe from the spirit, the fun is kept up long, with eating, drinking, singing, and dancing.

Evil spirits, especially those causing sickness or likely to damage a new hut, can be caught by the *menluana* and imprisoned in cages which are placed on special rafts and towed out to sea. When the raft lands at another village and transfers the spirit there, quarter-staff fights take place which are described below in the section on local characteristics. In the north, elaborate feasts and ceremonies are held to confine the spirits and ghosts to the *elpanam*, a public ground and cemetery, and to keep them away from the coco-nut plantations during the trading season.

Tabu.

Tabu, light or serious in its consequences, enters largely into the funeral customs, and appears again in a tabu of warning fires, light in houses, smoking and speech, for a month after sweeping the spirits out of the cemetery on Car Nicobar. The strongly marked tabu of the names of deceased relatives and friends, which lasts for a whole generation, has already been mentioned. Tabu further affects the form of the huts in some villages and islands. Among the Shom Pen the hut in which a death has occurred is tabued for an uncertain period. The making of pottery is tabued except on Chowra, and certain large kinds of pots are tabued to certain old people at the memorial feasts. Making shell lime for betel-chewing is tabued, except on Car Nicobar, Katchall, Nancowry southern group, and parts of Camorta. One kind of fish-trap is tabued for every place, except Nancowry Harbour in the rainy season. There is a common kind of private tabu of much interest, and the persons undergoing it are termed *saokkua*, 'dainty,' 'fastidious.' It amounts to an embryonic asceticism. These people will not eat any food cooked by others, nor drink well-water. They will not eat domesticated fowls or pigs, and their drinking-water must be rain or running water. They will only drink water drawn by themselves at a distance from the village and poured out of a coco-nut shell. Bread, biscuits, and rum are the only food and drink they will accept from others. There is also a good deal of pretence in the observation of the highly inconvenient funeral tabus. The late Okpank, or Captain Johnson, a well-known chief in Nancowry Harbour, once refused rum on board a visiting

steamer because of the tabu consequent on the death of a near relative, but was eager to get beer in its place.

The funeral customs, the whole object of which is spirit-scaring, are distinct in the north and south, but everywhere extravagant grief is displayed at all deaths for fear of angering the ghost. In the Central and Southern groups, notice is given to all friends and relatives, who are expected to, and in the latter case must, appear if possible with presents at the funeral ceremonies in order to appease the ghost. Relatives unavoidably absent are tabued the village until the first memorial feast (*entoin*) a few days later. The eyes of the dead are closed to prevent the ghost from seeing, the body is laid out, feet to the fireplace, head to the entrance of the hut, and washed in hot water continually, once to five times according to the period intervening before interment. Then follow eight obligatory duties: removal of all food, as it is tabued to the mourners till after the ceremony of purifying the hut, only hot water and tobacco being allowed; the destruction of the movable property of the deceased and placing the fragments on the grave as a propitiatory sacrifice to the ghost; the collection of a little food at the head of the corpse for the ghost, the remains being thrown to the dogs and pigs; the construction of a bier made out of the deceased's or a mourner's broken-up canoe; the digging of the grave, 5 feet deep, and erection of the two head-posts and the foot-post; the making of the fire to bar the ghost, on the ground at the hut entrance, out of chips from the bier and coco-nut husks; the completion of the grave by placing the sacrificed articles on the ground or in the deceased's destroyed basket; the throwing of pig-tusk trophies, some *kareau* or spirit-scarers, and pictures (*hentakoi*) into the jungle. Funeral customs.

The deceased is buried in, or with, all the clothing and ornaments possessed in life to appease the ghost, and ferry-money is placed between the chin-stay and the cheek. The corpse is entirely swathed, except as to a small portion of the face, in new cloths of any colour, except black, presented by the mourners for the purpose. Burial takes place at sundown, before midnight, or early dawn, in order to prevent the shadows of the attendants from falling into the grave, and being buried with the corpse.

Before removal to the grave, the body is taken to the centre of the hut and placed crosswise to the entrance, where it is mourned a short time, and then carried down the entrance ladder head foremost. Some of the mourners occasionally

make a feint of going to the grave with the deceased, and the priest (*menluana*) exhorts the ghost to remain in the grave until the memorial feast, and not to wander and frighten the living. When in the grave the body is pinned into it by special contrivances, to prevent the *mongwanga* or body-snatching spirits from abstracting it. The spirits of those present are finally waved out of the grave by a torch, and it is quickly filled in. At the *laneatla* feast the skeleton is exhumed and thoroughly cleaned, together with the ferry-money and silver ornaments, and reinterred, a custom which is a survival apparently of the still existing northern custom of reinterment in communal ossuaries. On Chowra and Teressa the dead are swathed in cloths and leaves, and put into half a canoe cut across for the purpose, and placed in the forks of a pair of posts about 6 feet from the ground. These canoes in Chowra are kept in a cemetery in a thick grove about 50 yards from the public buildings of the village, and in Teressa on the sea-shore, till the bodies fall out and are partly devoured by the pigs. They rapidly decompose and become skeletons, apparently without much effluvium arising from them. Children are put into small half-canoes. Every three or four years the bones are thrown at a feast into a communal ossuary. An account of the great ossuary feast by Mr. V. Solomon, Agent at Car Nicobar, is given at p. 226 of the *Census Report*, 1901.

On Car Nicobar there is serious wrestling over the corpse on its way to the grave: one party being for the burial and the other against it. This goes on till the corpse falls to the ground and several of the carriers are injured. It is then sometimes just thrown into the grave with the sacrifice of all the deceased's live-stock. On Car Nicobar there is only one short head-post, but this is carefully made in a convenient pattern. On Car Nicobar there is also a special ceremonial for the burial of highly revered personages, which is a distinctly Indo-Chinese custom.

The 'devil murders' of Car Nicobar are serious, and cases occasionally occur in Chowra, Teressa, and the Central group. The missionary Haensel (1779–87) reports them from the Central group. At p. 232 of the *Census Report*, 1901, will be found notes on every case that has come to light during the past twenty years. They are true ceremonial murders of men and women, and sometimes even of children, undertaken for the public benefit by a body of villagers after a more or less open consultation, to get rid of persons considered dangerous and obnoxious to the community. But the root-cause is

always spirit-possession; the victim is bad and dangerous because he is possessed. The orthodox method is very cruel. The legs and arms are broken or dislocated so that the victim cannot fight; he is then strangled and his body sunk at sea.

The *menluana* is a Shaman or doctor-priest of a sort common to many half-civilized peoples, but an interesting variety at Car Nicobar is the *mafai* or novice, the word actually meaning 'one undergoing sacerdotal instruction.' Any one that feels himself inspired may become a *mafai*, but he does not necessarily pass on to the stage of a *menluana*.

Tales of origin and the like are told in a jerky, disjointed fashion. Chowra is the holy land, the cradle of the race, where the men are wizards, a belief that the inhabitants of Chowra turn to good account for keeping the control of the internal trade in their own hands. The Car Nicobar story of origin is that a man arrived there from some unknown country on the Tenasserim coast with a pet dog. By this dog he had a son, whom the mother concealed in her *ngong* or coco-nut leaf petticoat. The son grew up, killed his father, and begot the race on his own mother. The end of the long bow tied round the foreheads of young men is to represent the dog ancestress's ears, and the long end of the loin-cloth her tail. They treat all dogs kindly in consequence, whence perhaps we may trace a lost totemism among them.

Physically there is little difference between the inhabitants of the various islands, except that the Shom Pen are about an inch shorter, and less robust than the coast tribes, are anaemic in complexion, and have protuberant bellies, all due probably to diet, surroundings, and mode of life. Mr. E. H. Man's measurements show that the Nicobarese are a fine, well-developed race. Physical characteristics.

AVERAGE MEASUREMENT IN INCHES

	Height.	Full span.	Seated height.	Foot.	Chest.	Weight in lb.
Men .	63¾	67	33½	9½	34½	136
Women .	60	61½	31½	8¾	...	118

The following may be taken as the prominent external characteristics of the people. The forehead is well formed, the lips are normal and the ears of medium size, the eyes are obliquely set, the nose wide and flat (rarely aquiline), the cheek-bones prominent, the face somewhat flat, and the mouth large. The complexion is yellowish or reddish brown. The figure is

not graceful, the waist being square and the back bending inwards sharply. The legs are extraordinarily developed, and the foot is long. Such prognathism as is observable is due to the habits of prolonged lactation, sucking green coco-nuts, and betel-chewing until the incisors of both jaws are forced forward in a revolting manner. Owing to their habit of dilating the lips by constant betel-chewing, adults of both sexes are often repulsive in appearance.

The skin is smooth throughout life and perspires freely. The teeth are healthy and, though disfigured, are not destroyed by the habit of perpetual betel-chewing. They loosen, however, at 50, and fall out before 60, owing no doubt to this habit. The hair is of the straight tough type (sometimes curly), growing to about 20 inches in length, and is a dark rusty brown in colour.

The recuperative powers are good, being much better than those of natives of India and equal to those of Europeans. Life is not regarded as precarious after five years of age. Wounds, cuts, and contusions heal with great rapidity. Child-birth is easy, but not to an abnormal extent, and the women are proud of a large family. The child-bearing age is 15 to 40, and children are suckled for two years. There is no partiality for male children, girls being as greatly, if not more, valued.

Living in a land of plenty, the Nicobarese endure hunger and thirst badly, and will eat and drink and chew betel at short intervals all day long, whenever practicable. They avoid the sun. Want of sleep is, however, borne with ease on occasion, though the sleepiness of the people in the daytime has deceived visitors. It is due to their habits of fishing and holding their ceremonies at night. They can carry very heavy weights, paddle canoes long distances, and can walk well and far without undue fatigue.

The gait is sluggish, slouching, and inelastic, but extreme agility is shown in climbing the coco-nut palm, and activity generally when there is anything important to be done. The Nicobarese on the whole do well what they are obliged to do. The daily necessary work is done regularly and systematically, and with a strict division of tasks between the sexes. They are expert in paddling and sailing boats, but not good swimmers. They are skilful and persevering sea fishermen, spearing fish by torch-light from canoes and catching them in sunken baskets, but not in nets or with stakes. Fishing lines are, however, well understood.

The gait betrays the nature. The Nicobarese will not exer-

oise or tax his powers of endurance if he can help it, resting with his load every few hundred yards, and he is an adept in lessening the weight of coco-nuts when obliged to carry them. He will not walk more than five miles without a rest. Both sexes understand the advantage of working together at heavy tasks, to the accompaniment of the voice. The women never go far from their homes.

The Nicobarese boys attain puberty at about 14, girls at about 13; they attain full height at about 18 and 17, and full growth at about 22 and 21; the men marry at about 24, and the women much earlier, 14 to 15; they age at about 50, and live on to 70 and even 80. There are more old women than old men, and length of life is apparently greater than in India or Indo-China.

Insanity is unknown, epilepsy almost so, and bodily abnormalities are rare. The great epidemics of the neighbouring continents—cholera, typhoid, smallpox, measles, and *beri-beri*—are usually absent and never endemic. Leprosy is unknown. Syphilis and cholera as epidemics have been imported, apparently since 1800. Malarial fevers are rampant everywhere, but are worst in the Central group, and though the inhabitants of the locality resist them, to all aliens they are specially deadly. Elephantiasis, as a mosquito-borne disease, has an interesting history. On Chowra, in 3 square miles, 522 people, or about 20 per cent., are attacked with it; but it is unknown on Car Nicobar, and is rare everywhere else. The other diseases are climatic, and occur chiefly at the change of the monsoons.

The sense development is normal, any excellence being due to special development for daily requirements. Taken as a whole, the Nicobarese, though for a very long while they were callous wreckers and pirates, and though they show great want of feeling in the 'devil murders,' are a quiet, good-natured, inoffensive people, honest, truthful, friendly, helpful, polite, and extremely hospitable towards each other, and not quarrelsome. By inclination they are friendly and hospitable towards, and not dangerous to, foreigners, though sometimes suspicious of and surly towards them, especially on Chowra and Katchall West. They are kindly to children, the aged, and to those in trouble, even when foreigners; respectful and kindly to women, the wife being a help not a slave; and deferential towards elders. They are very conservative, and bound down by custom in all things, changing, however, with the times in certain respects. Thus, since 1840 they have aban- Mental characteristics.

doned leaf tobacco for China tobacco twisted dry into cigarettes, Burmese fashion.

The mental capacity of the Nicobarese is considerable. It is lowest in the south and highest in the north, and there is a marked difference between the sluggish inhabitants of Great Nicobar and the eager trader of Car Nicobar. A noteworthy mental characteristic is the capacity for picking up after a 'pigeon' fashion any foreign language with which they come in contact.

Social characteristics. Food.

The chief article of food is the coco-nut, next in importance being *Pandanus* pulp, fish, and imported rice. Pigs and fowls are kept for feasts. Dogs are eaten in Chowra. Cultivated fruits of many Oriental kinds are eaten everywhere. The Nicobarese are very fond of stimulants, and smoke a great deal of tobacco. *Pān* is the usual stimulant, and is in perpetual use. They make toddy from the coco-nut palm, constantly use it, and often get very drunk on it. Any kind of foreign spirit is acceptable, rum and arrack being in much request. This is their great trouble with traders and foreigners, and has led to many disputes and crimes.

Dwellings.

The people are well housed, the houses being often of considerable size, containing an entire family. The house is raised on piles 5 to 7 feet from the ground, and consists of one large boarded floor, with mat and sometimes boarded walls, but without divisions. It is approached by a movable ladder. The houses are usually circular with a high thatched pent-roof, but they are sometimes oblong. The thatching is of grass or palm leaves. Underneath are often large square platforms for seats or food. There is much rude comfort about such a dwelling, and inside it everything has its place and all is kept clean and in order. The cooking-place is in a separate small hut, in which are kept the coco-nut water-vessels and the *larom* or prepared *Pandanus*. Besides the dwelling-houses, the northern villages contain special houses for the moribund and the lying-in women. The interior of the villages and the immediate surroundings of houses are, in the north, well swept and clean. Nicobarese villages vary in size from one or two houses to about fifty or more, and are situated in all sorts of sites, but usually on or near the sea-shore. On a backwater or site safe from a heavy sea the house piles are at times driven into the sand below high and even low-water mark. In the house are kept all the utensils, weapons, ornaments, and belongings of the family, in chests on the floor, on platforms built into the roof, and about the walls and roof. In places

the most striking objects to the visitor are the *kareau*, or spirit-scarers, which are figures, sometimes life-size, of human beings, often armed with spears, of mythical animals based on fish, crocodiles, birds, and pigs, and pictorial representations of all kinds of things, painted in colours on areca spathes stretched flat. All these are connected with their animistic religion. There is often an armed figure just above the ladder. Outside the houses, too, are similar 'very bad devils,' spirit-scarers. Among common objects, also, of which the use might easily be mistaken, one is the row or rows of pigs' lower jaws with tusks. These are not mementoes of sport, but of the skill of the housewife in rearing large pigs for food. Bundles of wood, neatly made, are kept under the house, not for domestic use, but ready to place on the next grave that it will be necessary to dig. So, again, models of ships outside houses in Car Nicobar are not spirit-scarers, but signs to traders that the people are ready to trade in coco-nuts.

On Car Nicobar and Chowra, near each village by the sea-shore, is the *elpanam*, where are the public buildings of the village, consisting of a meeting-house, a lying-in house, a mortuary, and the cemetery. Village affairs, canoe races, &c., are settled at the assembly house, a woman must be confined and go through a probationary period of uncleanliness in the lying-in house, and every one ought to die in the mortuary: a dying person is removed thither if possible. At the *elpanam* are provided places for all foreign traders to set up their houses, shops, and copra factories.

Occupations.

The Nicobarese busy themselves, firstly, with household duties, the care of their fruit-gardens, and the manufacture of articles for use and sale; secondly, with religious ceremonies and feasts; and, thirdly, with trade, external and internal. Special occupations are pottery and ceremonial iron-work on Chowra, basket-work on Car Nicobar, making of canoes and iron spears in the Central group, and of baskets, matting, wooden spears, and the collection of jungle produce in the Southern group. Car Nicobar grows half the coco-nuts in the islands.

Games and amusements.

The great pastime of the Nicobarese is feasting, and besides the numerous religious feasts and ceremonies they are constantly giving each other private feasts. The people do not seem to play games much, their leisure time being so occupied with religious and other festivals. But wrestling and playing with the quarter-staff are favourite amusements. For children, spinning-tops are ingeniously made of the betel-nut and a bit

of stick, and a toy windmill, of the fashion well-known in Europe, is constructed from the seed of a creeper. Models of all kinds of articles are also made as toys, and toy imitations of the articles a dead child would have used in later life are pathetically placed on its grave.

The Nicobarese dance is a circular dance performed in or near the houses, and in the north at the assembly-house. The dancers lay their arms across each other's backs, with the hands resting on the next person's shoulder, and form a circle. Both sexes join, but in separate groups. There is a leader in a monotonous concerted song, and then they step right and left under his direction, and jump in unison, coming down on both heels. The Nicobarese are a musical people, and sing clearly and well in unison. They compose songs for special occasions, and are adepts at acrostic songs. They have a flageolet and a stringed musical instrument, made of bamboo, on which they accompany themselves.

Family system.

Families are patriarchal, and as a rule live jointly. In such a household the father is the head of the family, and after his death the mother. When both parents are dead the eldest son succeeds. Houses, and especially coco-nut and vegetable gardens, are private property, passing by heredity. The last are carefully marked off, and each owner has distinct notions as to the extent of his holding, which is carefully denoted by his private mark. On the death of the parents all real property, such as coco-nut and *Pandanus* trees, fruit-trees, and all cultivated gardens, is equally divided among the sons, except that most of the coco-nut trees pass to the eldest son. Practically all the father's personal property, purchased with coco-nuts, in the way of clothing and luxuries of every kind, is destroyed at his death on his grave, a custom that keeps the people perpetually poor. The daughters inherit nothing at the death of the father. Their shares are allotted on marriage by their father or their brothers, and consist of the trees and pigs. The whole subject of proprietary rights is still, however, most obscure, and requires more investigation than has hitherto been possible.

Girls are free to choose their husbands; but, as is the rule where female freedom of choice in marriage exists, the question of wealth influences relatives, who bring pressure on the girls in favour of certain suitors. There is no marriage ceremony, and though dissolution of marriage by mutual consent is common, unfaithfulness during marriage is rare. On separation the children go to relatives, and step-children are not kept in

the house. Children, being valuable possessions in a thinly populated land, are looked on as belonging to the families of the persons who produced them.

Social emotions. Social emotions are clearly expressed by exclamations of the usual kind, and a great deal of politeness is observed in language, though the completeness of social equality prevents the use of honorifics of any kind, or titular forms of address. The social emotions are in fact strongly felt, and domestic troubles have led to suicide. Quarrels are nearly always settled by mutual friends, and seldom get beyond angry words, the final settlement being concluded by a feast given by the party adjudged to be in the wrong. Disputes arise over superstitions. When a family evil spirit has been caught and sent to sea in a model canoe which lands at another village or house site, the evil spirit has been transferred to a new house, and vengeance results. This is taken secretly by the aggrieved party and all its friends, who collect and on a dark night attack the offenders, while asleep, with quarter-staves steeped in pig's blood and covered with sand. They wear helmets consisting of a coco-nut husk, and smear their faces with red paint, so as to look savage. There is, however, not much real ferocity in the attack. The sticks are so long that they cannot be used in the houses, and so the attacked party has to come out, which it does readily. As every village is liable at any time to such an attack, it is always prepared, and keeps quarter-staves and coco-nut helmets ready for the purpose. A great deal of noise and some vigorous hammering continues till one party is getting the worst of it, and then the women interfere and part the combatants with cutlasses. Sore limbs, bruises, and broken fingers result, of which the heroes are proud, but no heads are broken. When all the trouble is over, the aggressors remain as the guests of the other party, and after a couple of days' feasting return home. This procedure is adopted also when serious general offence is given by any particular person.

Nomenclature. A child is named immediately after birth by its father, and an additional name is granted as a mark of favour by a friend. The latter is frequently changed in after life, which causes trouble when identity is sought by officials. A chief cause of the change is the tabu of the name of deceased relatives and friends for a generation, from fear of summoning their spirits, and the obligatory assumption of the name of the deceased grandfather by men and grandmother by women, on the death of both parents. Any person may adopt a name formed from any word in the language, a custom which, combined with the

tabu on death, has a serious effect on the stability of the language in any given locality, and has caused the frequent use of synonyms.

The Nicobarese have for a long while had a great fancy for foreign, chiefly English, names, with an extraordinary result, for traders and others have for generations allowed their fancy play in giving ridiculous names, which have been used in addition to their own by the people in all good faith. Many persons also bear Indian, Burmese, and Malay names in a corrupted form. A chief, or headman, is usually styled Captain, a title they regard as lofty from observing the position of a ship's commander on board.

Manufactures. The Nicobarese are good carpenters, and can make fair models of most of their larger articles. They can work in, but not make, iron, and are adepts in constructing all sorts of articles for domestic use (*vide* Man's elaborate *Catalogues of Objects made and used by the Nicobarese*). Harpoons and spears of all sorts are made well, with detachable heads for pigs. All the heads are of iron, except for small fish, and among the Shom Pen, who use hard wooden spears with notched heads. They make and use a crossbow in some places, and everywhere quarter-staves (in the play of which they are adepts), and helmets, made of padded cloth or coco-nut husk. The pottery of Chowra is manufactured up to a large size, and turned by hand, not on the wheel, every maker placing his own distinctive mark under the rim. Pottery is used for food that is cooked, such as pork, *Pandanus*, and *Cycas* paste, fowls, rice, vegetables, coco-nut oil (for which, however, they have besides a special press). Fish is cooked in pots procured by trade from India. Rain-water is also caught ingeniously in Indian pots.

A large portion of the manufactures is of articles connected with superstitions; but, in addition, the Nicobarese are very expert and neat in making articles for daily use from the leaves and spathes of palms, the leaf of the *Pandanus*, the shell of the coco-nut, and out of wood, iron, shells of fish, fibres of several kinds, bamboos, and canes.

The canoes are skilfully outrigged structures, light, and easily hauled up and carried. They are made of one piece of wood hollowed out and burnt, and very carefully constructed. In shape they are flat-bottomed, big-bellied, narrowed towards the top, with a small raised taffrail, battens for seats at regular intervals, and long and projecting bows. They are fast sailers, and, when properly managed, safe in surf and rough water.

The racing canoes are specially built and costly, with ornamental masts and flagstaffs in the bows. The indigenous masts and sails are wide strips of clipped coco-nut or *nipa* leaves, and number two to four at intervals. Cotton lateen and other sails of borrowed patterns are, however, nowadays more commonly used. Clothing is nearly all imported, and so are most of the ornaments worn.

Industries and trade.

The Nicobarese cultivate no cereals, not even rice, and very little cotton, though carefully taught by the Moravians; but they exercise some care and knowledge over coco-nut and tobacco, and have had much success with the many foreign fruits and vegetables introduced by Danish and other missionaries. They club together in making their gardens, which are industriously cultivated and always, if possible, out of sight. They domesticate dogs, fowls, and pigs, which they fatten; but not cattle and goats, as they use no milk. They tame parrots and monkeys for sale. The staple article of trade has always been the universal coco-nut, of which it is computed that 15 millions are produced annually, 10 millions being taken by the people, who in most places drink nothing but coco-nut milk, and 5 millions being exported, 2½ millions from Car Nicobar and 2½ millions from the remaining islands. The export consists of whole nuts and copra (pulp prepared for expressing oil). There is some export, also, of edible birds'-nests, split cane, betel-nuts, trepang (*bêche-de-mer*), ambergris, and tortoise-shell. The imports consist of a great variety of articles, including rice, cotton cloths, iron, cutlasses (*das*), knives, tobacco, crockery and pottery, glass-ware, silver and white-metal ornaments, sugar, camphor, wooden boxes and chests, biscuits, fishing nets, Epsom salts, turpentine, castor-oil, looking-glasses, thread, string, matches, needles, European hats, old suits of cloth, and cotton clothing. Spirits and guns, though welcome, are contraband. As with all semi-civilized peoples, articles of trade to be accepted must conform closely to fixed pattern. The foreign trade is in the hands of natives of India, Burmans, Malays, and Chinamen, who visit the islands in schooners, junks, and other small craft.

The system of trade is for the foreign trader to give in advance to the local owner of trees the articles settled on for a certain quantity of coco-nuts, and then to recover their value from the trees. He must himself get the nuts down from the tree, make the copra and take it away and the husks too, if he wants them. The Nicobarese does nothing but reckon by tally what is taken. It is a laborious system for the trader

and requires systematic working. At pp. 242–3 of the *Census Report*, 1901, will be found lists of trade articles and their value in coco-nuts.

Internal trade.

There is an old-established internal trade, chiefly between the other islands and Chowra for pots, which are only made there. Chowra is also a mart for the purchase of racing and other canoes, made elsewhere in the islands. The season for trade is December to April. The Southern group brings to the Central group baskets, tortoise-shell, split rattans for canoes, sestus bark and cloth for matting and formerly for general clothing, and a few canoes. These are passed on to Chowra, with spears and racing canoes made in the Central group, in return for a certain class of iron hog-spears and pots, and are sold by the Chowra people to Car Nicobar for cloth, baskets of Car Nicobar make, and a great variety of articles valued at Car Nicobar in coco-nuts. There is a considerable trade between the Shom Pen and the coast people of Great Nicobar in canes, canoes, wooden spears, bark-cloth, matting, and honey, for iron *das* and cotton cloths.

Currency.

Without using coin, the Nicobarese have always been ready and quick-witted traders in their great staple the coco-nut, using it also as currency, and obtaining for it even important articles of food which they do not produce, their clothing, and many articles of daily use. The system is to value the article to be purchased in nuts, and to pay for it by the other articles also valued in nuts. Thus land valued at 10,000 nuts has been paid for by about 50 manufactured articles valued in the aggregate at 10,000 nuts. So also a racing canoe valued at 35,000 nuts has been paid for by some 200 articles valued in the aggregate at the same figure.

Reckoning.

The Nicobarese keep no records of reckoning beyond tallies, and have no methods for any mathematical process beyond tallying. The basis of all reckoning is tally by the score, and for trade purposes by the score of scores; and on this basis they have evolved a system which is naturally clumsy and complicated, but has become simplified where trade is briskest, and is made exact by an interesting series of rising standards up to very large figures. Tally is ordinarily kept by nicks with the thumbnail on strips of cane or bamboo, and in Car Nicobar, where the trade in coco-nuts is largest, by notches cut in sets on a stick. For ordinary purposes Nicobarese reckoning stops at about 600, except on Car Nicobar, where it stops at 2,000; but for coco-nuts it extends everywhere to very large figures, and even the Shom Pen have no difficulty

in reckoning up to 80,000. A set of commercial scales will be found at p. 218 of the *Census Report*, 1901, and a detailed examination of the system of reckoning at p. 244.

The Nicobarese keep rough calendars by notches on wood. They reckon time by the monsoon season, or period of regular winds. Roughly the south-west monsoon blows from May to October, and the north-east from November to April, or for six months each. Two monsoons thus make a solar year, though the Nicobarese have no notion of such reckoning. Within a monsoon, time is approximately divided by moons or lunar months. Each moon is divided clearly into days, or as the Nicobarese reckon them *nights*, up to thirty, and more if necessary. As the monsoons do not fall exactly to time, but may be late or early, there is a rough and ready method of rectifying errors in reckoning, by a system of intercalary nights, when the moon cannot be seen, and by cutting short the month to suit the moon. In talking with the Nicobarese, it has always to be borne in mind that they never reckon by the year, but always by the monsoon or half-year.

Communications.

All distant communications are by water; but on Car Nicobar good clear paths lead from village to village, and this is true to some extent of Chowra, Teressa, and Katchall. The sea distances have made the people expert in the feeling of direction, and, as among other Far-Eastern people, the points of the compass are thoroughly understood and constantly in mind. A Nicobarese always knows intuitively the direction north, south, east, or west of any object, action, condition, or movement at any time, and constantly so describes position in his speech.

Necessity has also compelled the Nicobarese to study the stars and winds to a limited extent. Their astronomical knowledge is strictly limited to actual requirements, while sailing or paddling at night in calm weather, and at neap tides from one island to another. Voyages are then made partly at night under star guidance, but steering by the stars is the old men's work. Young men fight shy of it, for fear of such uncanny knowledge shortening their lives or ageing them unduly. The study and knowledge of the winds is also strictly practical. The terms for the winds have no connexion whatever with the points of the compass, but relate generally to the territorial direction of the wind which will help canoes from one island to another.

Internal government.

Internal affairs are regulated only by the village, each of which has a chief, often hereditary, and recognized elders. In the chief is vested the land, but he cannot interfere with

ownership of houses and products, without the consent of the elders. Beyond a certain respect paid to him, and a sort of right to unlimited toddy from his villagers, the chief has not much power or influence, except what may happen to be due to his personality. The maintenance of the chiefs or 'captains' has been encouraged steadily by all the foreign suzerains for their own political convenience. The custom was started by the Portuguese in the seventeenth century, and has been carried on by the Danes, Austrians, and British in succession. In the eyes of the people a man so appointed by the foreign suzerain, unless a chief or elder naturally, is looked upon merely as an interpreter for communication with the suzerain, without any social standing or power. Other persons, besides the chief and the elders, who have acquired a certain political power are the witch-finders and sorcerers (*menluana*). Government is, in fact, simple democracy bound by custom. Property is everywhere safe. In Car Nicobar, where the villages are much the largest, the government and the land seem to be vested in the chief (*matakkolo*) and three hereditary elders (*yomtundal*), who rule everything in council. All the village land is held from the council of elders for cultivation by the people, who, however, give nothing for it beyond contributions at ceremonies.

Relations with the British.

In 1882, during the occupation as a Penal Settlement, a system of control over all the islands was started by means of making formal appointments of all chiefs as from the British Government. The chiefs thus appointed are, as far as possible, selected by the people themselves, but Government reserves to itself the power to depose any chief who misbehaves, and to appoint another in his place. The whole of the islands have now acquiesced in this procedure, and by its means an effective continuous control is maintained. Each chief receives a formal certificate of appointment, an annual suit of clothes, a flag (Union Jack), and a blank leather-bound book. All these he is bound to produce at every official visit to his village; and he undertakes to hoist the flag at the approach of every ship, to produce his book so that the commander may write in it any remarks, to report to official visitors all occurrences, especially smuggling, wrecks, and violent offences that have taken place since the last visit, and to assist in keeping order. On the whole, the chiefs perform their duties as well as might be expected from people of their civilization. In every other respect the people are left to themselves.

There is a Government Agent at Nancowry, whose duties

are to assist the chiefs in keeping order, to collect fees for licences to trade in the islands, to give port clearances, to report all occurrences, to prevent the smuggling of liquor and guns, and to settle petty disputes among the people themselves, or between the people and the traders, as amicably as may be. Excepting the ceremonial 'devil murders' of Car Nicobar, there is scarcely any violent crime, and very few violent disputes occur with the traders, so that order and control are maintained with hardly any interruption. The 'devil murders' are dealt with directly from Port Blair.

[Rink: *Die Nikobarischen Inseln* (Copenhagen, 1847); translation in *Selections from the Records of the Government of India*, No. LXXVII, pp. 109–53.—Maurer: *Die Nikobaren* (Berlin, 1867); valuable bibliography, English, Danish, German, 1799–1863.—*Selections from the Records of the Government of India*, No. LXXVII (Calcutta, 1870); valuable bibliography.—Hochstetter: *Beiträge zur Geologie der Nikobar-Inseln, Reise der Novara, Geologischer Theil* ii, 85–112 (Vienna, 1866); translation in *Records of the Geological Survey of India*, No. IV, pp. 59–73, 1870.—V. Ball: 'Notes on the Geology, &c., in the Neighbourhood of Nancowry Harbour,' *Journal, Asiatic Society of Bengal*, vol. xxxix, pp. 25–9.—De Rœpstorff: *Nicobarese Vocabulary* (Calcutta, 1875); valuable bibliography, French, Danish, German.—De Rœpstorff: *Dictionary of the Nancowry Dialect* (Calcutta, 1884); valuable references to Danish works.—E. H. Man: *Dictionary of the Central Nicobarese Language* (1889).—*Internationales Archiv für Ethnographie* (Leiden, 1893). Svoboda, 'Die Bewohner des Nikobar-Archipels'; continental bibliography.—Sir R. C Temple: *Census Report, 1901, on the Andaman and Nicobar Islands* (1903).] Bibliography.

Port Blair.—A Penal Settlement in the Andaman Islands, Bay of Bengal, which consists of the South Andaman and the islets attached thereto, covering an area of 473 square miles. Of this total, 327 square miles are in actual occupation. The unoccupied area consists of the densest jungle. The occupied area is partly cleared for cultivation, grazing, and habitation, and partly afforested. A great part of the unoccupied area is in the hands of the hostile Jarawas; but they are gradually retreating northwards under pressure of the forest operations, which are extending over the whole area of the Penal Settlement. Physical features.

The South Andaman Island has a very deeply indented coast-line, comprising the following harbours: on the east coast, Port Meadows and Port Blair; on the south coast, Coasts.

Macpherson's Strait; on the west coast, Port Mouat, Port Campbell, and Port Anson. Vessels of any draught can anchor and trade with safety in these in any weather and at all seasons. If Baratang be reckoned with the South Andaman as a natural apanage, Elphinstone Harbour must be added to the list. Smaller vessels also find the following places safe for shelter and most convenient for work: on the east coast, Colebrooke Passage, Kotara Anchorage, and Shoal Bay; on the west coast, Elphinstone Passage in the Labyrinth Islands, and in some seasons Constance Bay; in Ritchie's Archipelago, Kwangtung Strait and Tadma Juru, and in some seasons Outram Harbour.

For forest trade, the staple commerce of the islands, a more convenient natural arrangement is hardly imaginable. Port Mouat is only 2 miles distant from Port Blair, over an easy rise; Shoal Bay is 7 miles, with an easy gradient from Port Blair, and runs into Kotara Anchorage; and Port Meadows is but a mile from Kotara Anchorage. Creeks navigable by large steam-launches run into Port Blair from some distance inland. Five straits surround the island: two, Macpherson's Strait and Elphinstone Passage, navigable by ships; and the rest, Middle Strait, Colebrooke Passage, and Homfray's Strait, navigable by large steam-launches. Diligent Strait, practicable for the largest ships, and only 4 miles across at the narrowest point, separates Ritchie's Archipelago from the main islands; and the archipelago is itself intersected everywhere by straits and narrows, which are mostly navigable.

Hills. The whole of the Settlement area consists of hills separated by narrow valleys, rendering road-making and rapid land communication difficult. The main ranges are the Mount Harriett Range, up to 1,500 feet; the Cholunga Range, up to 1,000 feet; and the West Coast Range, up to 700 feet. These run almost parallel, north and south, down the centre of the island. To the north, the Cholunga Range breaks up into a number of more or less parallel ridges. To the south, below Port Blair Harbour, the country is a maze of hills rising to 850 feet, and tending to form ridges running north and south.

Streams. No stream in the island could be called a river, and on the east coast perennial streams are not common. On the west and north, however, more surface water is found, and perennial streams running chiefly from south to north are fairly numerous. Fresh water is, however, everywhere obtained without much difficulty from wells, and rain-water reservoirs (tanks) could

be formed in all parts. Navigable salt-water creeks are numerous, and of much assistance in water-carriage.

History. Eighteenth century.

The old settlement at the Andamans, established by the well-known Marine Surveyor Archibald Blair in 1789, was not a penal settlement at all. It was formed on the lines of several then in existence, e.g. at Penang and Bencoolen, to put down piracy and the murder of shipwrecked crews. Convicts from India were sent incidentally to help in its development, precisely as they were sent to Bencoolen, and afterwards to Penang, Malacca, Singapore, Moulmein, and the Tenasserim province. Everything that Blair did was performed with ability; and his arrangements for establishing the settlement in what he named Port Cornwallis (now Port Blair) were excellent, as were his selection of the site and his surveys of parts of the coast, several of which are still in use. The settlement flourished under Blair; but unfortunately, on the advice of Commodore Cornwallis, brother of the Governor-General, the site was changed for strategical reasons to North-East Harbour, now Port Cornwallis, where it flourished at first, but subsequently suffered much from sickness. Here it was under Colonel Alexander Kyd, an engineer officer, and a man of considerable powers and resource. On the abandonment of the settlement in 1796, on account of sickness, it contained 270 convicts and 550 free Bengali settlers. The convicts were transferred to Penang and the settlers taken to Bengal. After that the islands remained unoccupied by the Indian Government till 1856, the present Penal Settlement being formed two years later.

Present Settlement.

Since its foundation, the history of the Penal Settlement is merely one of continuous official development from March, 1858, when Dr. P. J. Walker, an experienced Indian Jail Superintendent, arrived with 4 European officials and 773 convicts, and commenced clearings in Port Blair Harbour, to the present day.

History of penal system.

The penal system in force at the Andamans is *sui generis*, has grown up on its own lines, and has been gradually adapted to the requirements of the present complex conditions. The system has always been independent of, and was never at any time based on, the Indian prison system, and has been continuously under development from its inception by Sir Stamford Raffles for about a hundred years. The fundamental principles on which it is founded are still substantially what they were originally, and have stood the criticism, the repeated examination, and the modifications in detail of a century without

material alteration. The classification of the convicts, the titles of those who are selected to assist in controlling the general body, the distinguishing marks on their costume, the modes of employing them, and their local privileges are virtually now as they were at the beginning.

The first temporary Superintendent of the Andamans was Captain (afterwards General) Henry Man, who had long been Superintendent of the Penal Settlements in the Straits. In January, 1858, he was authorized by the Government of India to follow generally the system in force in the Straits Settlements, and received powers under the Mutineers Acts, XIV and XVII of 1857 (since repealed). Captain Man was succeeded in March, 1858, by Doctor P. J. Walker, who drew up rules, sanctioned by the Government of India, and based on instructions identical with those given to Captain Man. These were followed by the Port Blair and Andamans Act, XXVII of 1861 (since repealed), and by modifications in the rules made by successive Superintendents and by Lord Napier of Magdāla, as the result of an official inspection of the Settlement in 1863. In 1868, when General Man became permanent Superintendent, he embodied in the Andaman system the Straits Settlements Penal Regulations, and thus brought the system still more closely into line with that of the Straits Settlements. These modifications still affect almost every part of it. A formal Regulation was drafted in 1871, and after discussion by Sir Donald Stewart, Chief Commissioner and Superintendent, Mr. (Justice) Scarlett Campbell and Sir Henry Norman, became the Andaman and Nicobar Regulation, 1874, supplemented by rules passed by the Governor-General-in-Council and the Chief Commissioner. In 1876 a new Andaman and Nicobar Regulation was drawn up, but the rules under the Regulation of 1874 were continued. These rules, together with the Superintendent's by-laws (Settlement Standing Orders) passed under them, and modified from time to time by the Government of India and by the Commission of Sir C. J. Lyall and Sir A. Lethbridge in 1890. form the still-growing penal system of the present day.

The methods employed were originally a new departure in the treatment of prisoners, the salient features being the employment of convicts on every kind of labour necessary to a self-supporting community, and their control by convicts selected from among themselves. Permission to marry and settle down is given after a certain period, when the convict is called a 'self-supporter.' Indian convicts were first transported

in 1787 to Bencoolen in Sumatra to develop that place, then under the Indian Government. The Lieutenant-Governor, Sir Stamford Raffles, drew up a dispatch in 1818, explaining the principles he had already successfully adopted for their management, and in 1823 he sent the Government a copy of his Regulations. In 1825 Bencoolen was ceded to the Dutch, and the convicts were transferred to Penang and Singapore. Penang had been occupied in 1785, and convicts were sent there in 1796. When the Bencoolen convicts arrived, they remained under the Regulations of Sir Stamford Raffles, and in 1827 the Penang Rules were adapted from these. When Malacca was occupied in 1824, convicts were sent there from Penang, and shortly afterwards they too were placed under the Penang Rules. Singapore had been founded by Sir Stamford Raffles in 1819, and in 1825 convicts arrived there from Bencoolen and India, and in 1826 from Penang. The Bencoolen Rules, and later the Penang Rules, were in force at Singapore, with modifications, for many years, until Regulations for the management of Indian convicts were drawn up in 1845 by Colonel Butterworth, the Governor of Singapore, known as the Butterworth Rules. They were modified by Major McNair, Superintendent of the convicts, in 1858. The Butterworth Rules were founded on the principles laid down by Sir Stamford Raffles in 1818 and on his Bencoolen Rules. A leading part in the drafting and working of these was taken by General Man, to whom it fell to start the Andaman Penal Settlement in 1858. He carried them with him to Moulmein and the Tenasserim province, to which places Indian convicts were also transported; and when he was appointed permanent Superintendent of the Andaman Penal Settlement in 1868 he embodied the Regulations for Tenasserim in the rules and orders he found already existing. The intimate connexion of the Andamans with the original penal system from the beginning is further illustrated by the fact that, when the old settlement at Port Cornwallis was broken up in 1796, the convicts were transferred to Penang.

Persons transported to Port Blair by the Government of India are either murderers who for some reason have escaped the death penalty, or perpetrators of the more heinous offences against the person and property. Their sentences are chiefly for life; but some, varying from very few to a considerable number, with long-term sentences, are also sent from time to time. Except under special circumstances, convicts are not received under eighteen years of age, nor over The convicts.

forty years, and they must be certified as medically fit for hard labour before transportation. Youths between eighteen and twenty are kept in the boys' gang under special conditions. Girls of about sixteen are occasionally received; but as all women locally unmarried are kept in the female jail, a large enclosure consisting of separate sleeping wards and worksheds, there are no special rules for them.

Offences causing transportation.

The following table shows that murder and heinous offences against the person, dacoity (gang robbery with murder or preparation for murder), and other heinous offences against property, make up nearly the whole total:—

Year.	Murder.	Against the person.	Dacoity.	Against property.	Others.	Total.
1874 .	5,575	107	1,262	325	298	7,567
1881 .	7,445	158	2,444	1,012	381	11,440
1891 .	7,946	308	1,711	1,337	416	11,718
1901 .	7,795	817	2,262	904	196	11,974
1905-6 .	8,559	812	3,050	2,038	237	14,696

These figures illustrate clearly the violent character of the convicts, and it is of value to examine their behaviour under continuous restraint. Between 1890 and 1900, the average proportion of convicts who committed or attempted murder was 0·12 per cent., the figures rising to 0·154 in 1894. Neither the nature of the labour nor the discipline enforced appears to have any effect on the tendency to murder, and the motives traced are similar to those disclosed among an ordinary population, while murderous assaults are usually committed quite suddenly on opportunity and cause arising.

Administration.

The Penal Settlement is administered by the Chief Commissioner, Andamans and Nicobars, as Superintendent, with a Deputy and a staff of Assistant Superintendents and overseers, who are almost all Europeans, and sub-overseers, who are natives of India. The petty supervising establishments are staffed by convicts. There are, besides, special departments: Police, Medical, Commissariat, Forests, Tea, Marine, and so on, of the usual type in India, except that all civil officers are invested with special powers over convicts. Civil and criminal justice is administered by a series of courts under the Chief Commissioner and the Deputy-Superintendent, as the principal courts of original and appellate jurisdiction. The Chief Commissioner is also the chief revenue and financial authority.

Subdivisions.

The Penal Settlement centres round the harbour of Port

Blair, the administrative head-quarters being on Ross Island, an islet of less than a quarter of a square mile, across the entrance of the harbour. For administrative purposes it is divided into two districts and four subdivisions. The subdivisions remain constant, but their distribution between the districts has varied from time to time. At present they are as follows: Eastern District (head-quarters, Aberdeen)—Ross, Haddo; Western District (head-quarters, Viper Island)—Viper, Wimberley Ganj.

Within the subdivisions are stations, places where labouring convicts are kept, and villages, where either 'free' settlers or 'self-supporters' dwell. As these stations and villages enter largely into the life and description of the place, a list is given here. Stations and villages.

EASTERN DISTRICT

Ross Subdivision

Stations

Ross.	North Corbyn's Cove.	Middle Point.
North Bay.	Mādhoban.	Rutland Island.
Mount Harriett.		

Villages

South Point.	Aberdeen.

Haddo Subdivision

Stations

Phoenix Bay.	Rangachāng.	Minnie Bay.
Haddo.	Garachērama.	Pahārgaon.
Tea Garden, Navy Bay.		

Villages

Chatham.	Bumlitān.	Austinābād.
Phoenix Bay.	Taylerābād.	Pahārgaon.
Janglighāt.	School Line.	Lamba Line.
Niāgaon.	Garachērama.	Dūdh Line.
Birch Ganj.	Protheroepore.	

WESTERN DISTRICT

Viper Subdivision

Stations

Viper Island.	Port Mouat.	Namūnaghar.
Dundas Point.	Elephant Point.	

WESTERN DISTRICT (*cont.*)

Villages

Mitha Khāri.	Port Mouat.	Manglutān.
Namūnaghar.	Dhani Khāri.	Baghēlsinghpura.
Ograbaraij.	Homfray Ganj.	Nawashahr.
Chauldāri.		

WIMBERLEY GANJ SUBDIVISION

Stations

Shore Point.	Kālatāng.	Bājajāgda.
Goplākabang (including Middle Straits).	Jātāng.	Bindrāban.

Villages

Bamboo Flat.	Bindrāban.	Tusonābād.
Stewart Ganj.	Anikhet.	Manpur.
Wimberley Ganj.	Cadell Ganj.	Temple Ganj.
Kādakachāng.	Hobdaypur.	Alīpur.
Mathura.		

Penal system.

The full penal system, as at present worked, is as follows. Life-convicts are confined in the cellular jail for six months, where the discipline is severe but the work is not hard. They are then put to hard gang labour in outdoor work for 4½ years, and are locked up at night in barracks. For his labour during this period the convict receives no reward, but his capabilities are studied. During the next five years he remains a labouring convict, but is eligible for the petty posts of supervision and the easier forms of labour; he also gets a very small allowance for little luxuries, or to deposit in the special savings bank. He has now completed ten years in transportation, and can receive a ticket-of-leave, being termed a 'self-supporter.' In this condition he earns his own living in a village; he can farm, keep cattle, and marry or send for his family. But he is not free, has no civil rights, and cannot leave the Settlement or be idle. After twenty to twenty-five years spent in the Settlement with approved conduct, he may be released either absolutely or, in certain cases, under conditions as to place of residence and police surveillance. While a 'self-supporter,' he is at first assisted with house, food, and tools, and pays no taxes or cesses; but after three to four years, according to certain conditions, he receives no assistance, and is charged with every public payment which would be demanded of him were he a free man.

The women life-convicts are similarly dealt with, but less rigorously. The general principle is to divide them into two

main classes: those in, and those out of, the female jail. Every woman must remain in the female jail unless in domestic employ by permission, or married and living with her husband. Women are eligible for marriage or domestic employ after five years in the Settlement, and if married they may leave the Settlement after fifteen years with their husbands; but all married couples have to wait till the expiry of both their sentences, and they must leave together. If unmarried, women remain twenty years in the jail. They rise from class to class, and can become petty officers on terms similar to those for the men.

Term-convicts are treated on the same general lines, except that they cannot become 'self-supporters,' and are released at once on the expiry of their sentences.

Convict marriages, which are described below under Caste, are carefully controlled to prevent degeneration into concubinage or irregular alliances; and the special local savings bank has proved of great value in inducing a faith on the part of the convicts in the honesty of the Government, besides its value in causing habits of thrift and diminishing the temptation to violence for the sake of money hoarded privately.

The whole aim of the treatment is to educate for useful citizenship, by the insistence on continuous practice in self-help and self-restraint, leading to profit. Efforts to behave well and submission to control alone guide the convict's upward promotion; every lapse retards it. And when he becomes a 'self-supporter,' the convict can provide money out of his own earnings as a steady member of society, to afford a sufficient competence on release. The incorrigible are kept till death, the slow till they mend their ways, and only those who are proved to have good in them return to their homes. The argument on which the system is based is that the acts of the convict spring from a constitutional want of self-control.

Judicial.

All civil officers are Magistrates and Civil Judges, with the ordinary powers exercised in India; and if a term-convict misbehaves seriously, his case can be tried magisterially and an additional punishment inflicted. In the case of a life-convict any sentence of 'chain gang' imposed is added to the twenty (or twenty-five) years that he must, in any case, remain. Any offence under the Indian Penal Code or other law is punishable executively as a 'convict offence,' except an offence involving a capital sentence, which is tried at Sessions in the ordinary manner. 'Convict offences,' though punishable executively, are all tried, however trivial, by a fixed *quasi*-judicial pro-

cedure, including record and appeal, so that the convict is made to feel that justice is as secure to him as to the free.

Classification of convicts.

The convicts, while in the Settlement, are divided in several ways. The great economic division for both sexes is into labouring convicts and 'self-supporters'; the former perform all the labour of the place, skilled and unskilled, and the latter are chiefly engaged in agriculture and food supplies. The commissariat division is into 'rationed' and 'not rationed': in the former class are nearly all the labouring convicts, and in the latter all the 'self-supporters' and some of the labouring convicts. The financial division is into classes indicating those with and those without allowances, with numerous subdivisions according to the scale of allowances.

Discipline.

There are also disciplinary gangs, involving degradation either on account of bad character on arrival, or while in the Settlement. These are known as Cellular Jail Prisoner, Chain Gang, Viper Jail Prisoner, Habitual Criminal Gang, Viper Island Disciplinary, Unnatural Crime Gang, Chatham Island Disciplinary, 'D' (for 'doubtful') ticket men. The 'D' ticket may be explained as follows. Prisoners in the third class are obliged to wear wooden neck tickets, bearing full particulars of their position. On the ticket is the convict's number, the section of the Indian Penal Code under which he was convicted, the date of his sentence, and the date his release is due. For a convict of 'doubtful' character the ticket has a D; for one of a gang of criminals in India it has a star, and the presence or absence of A shows the class of ration; for a life-prisoner it has L.

There is a class of 'connected' convicts. Prisoners convicted in the same case, marked by a star on the neck ticket, are all specially noted and never kept in the same station or working gang. These special arrangements sometimes involve considerable care and organization, as a large gang of dangerous dacoits may arrive in Port Blair, forty strong.

'Free' and 'convict' districts.

The Settlement is divided into what are known as the 'free' and 'convict' portions, by which the free settlers living in villages are separated from the 'self-supporters' who also live in villages. Every effort is made to prevent unauthorized communication between these two divisions. No adult person can enter the Settlement without permission, or reside there without an annual licence; and certain other necessary restrictions are imposed on him as to his movements among and his dealings with the convicts, on pain of being expelled or punished. The 'free' subdivisions are Ross, Aberdeen, Haddo, and

Garachērama. The 'convict' subdivisions are Viper and Wimberley Ganj.

A large proportion of the free settlers are descendants of convicts (known in Port Blair as the 'local-born') and permanent residents. Like every other population the 'local-born' comprise every kind of personal character. Taken as a class they may, however, be described thus. As children they are bright, intelligent, and unusually healthy. It is the rule, not the exception, for the whole of a 'local-born' family to be reared. On the score of intelligence they do not fail throughout life. As young people they do not exhibit any unusual degree of violence or inclination to theft, but their general morality is distinctly low. Among the girls, even when quite young, there is a painful amount of prostitution, open and veiled: the result partly of temptation in a population in which the males very greatly preponderate, but chiefly due to bad early associations, convict mothers not being a class likely to bring up their girls to a high morality. The boys, and sometimes the girls, exhibit much defiant pride of position, in being free as opposed to the convict, combined with a certain mental smartness, idleness, dislike of manual labour, and disrespect for age and authority that stand much in their way in life. Their defiant attitude is probably due to the indeterminate nature of their social status, as has been observed of classes unhappily situated socially elsewhere. Heredity seems to show itself in both sexes rather in a tendency towards the meaner qualities than towards violence of temperament. The adult villagers are quarrelsome and as litigious as the courts will permit them to be. They borrow all the money they can, do not get as much out of the land as they might, and spend too much time in attempting to get the better of neighbours. At the same time, it would be an entire error to suppose that the better elements in human nature are not exhibited, and many convicts' descendants have shown themselves upright, capable, hardworking, honest, and self-respecting. On the whole, considering their parentage, the 'local-born' population is of a much higher type than might be expected, though there is too great a tendency on the part of the whole population to lean on the Government, the result probably of the minute supervision necessary in the conditions of the Settlement. **Convicts' descendants.**

The population of the Penal Settlement consists of convicts, their guards, the supervising, clerical, and departmental staff, with the families of the latter, and a limited number of ex-convict and trading settlers and their families. Detailed **Population.**

statistics have been maintained since 1874, and are shown as in the following tables; but it must be remembered that in intervening years the numbers of the convicts vary considerably:—

Year.	Administrative establishment.					Free resident population, including children and conditionally released.		
	Civil.	Military.	Marine.	Police.	Total.	Male.	Female.	Total.
1874 . .	50	426	19	330	825	466	372	838
1881 . .	45	336	19	736	1,136	941	669	1,610
1891 . .	85	460	39	541	1,125	1,357	1,340	2,697
1901 . .	100	466	70	532	1,168	1,623	1,368	2,991
1905–6 .	107	517	14	595	1,233	1,594	1,382	2,976

Year.	Convict population.			Total population.				
				Adults.		Children.		Grand total.
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	
1874 .	6,733	836	7,569	7,654	907	370	301	9,232
1881 .	10,325	1,127	11,452	11,766	1,329	636	467	14,198
1891 .	10,874	864	11,738	12,532	1,439	824	765	15,560
1901 .	11,217	730	11,947	13,235	1,477	773	621	16,106
1905–6 .	13,981	715	14,696	16,070	1,494	738	603	18,905

Language. The mother tongues of the population are as numerous as in the parts of India and Burma from which it is derived; but the *lingua franca* of the Settlement is Urdū (Hindustāni), spoken in every possible variety of corruption, and with every variety of accent. All convicts learn it to an extent sufficient for their daily wants, and the understanding of orders and directions. It is also the vernacular of the 'local-born,' whatever their descent. The small extent to which many absolute strangers, such as the Burmese, the inhabitants of Madras, and others, master it, is one of the safeguards of the Settlement, as it makes it impossible for any general plot to be hatched. In barracks, in boats, and on works where men have to be congregated, every care is taken to split up nationalities, with the result that, except on matters of daily common concern, the convicts are unable to converse confidentially together. The Urdū of Port Blair is thus not only exceedingly corrupt from natural causes, but it is filled with technicalities arising out of local conditions and the special requirements of convict life. Even the vernacular of the 'local-born' is loaded with them. These technicalities are partly derived from English,

and are partly specialized applications to new uses of pure or corrupted Urdū words. As opportunity has arisen, some of these have been collected and printed from time to time in the *Indian Antiquary*. The most prominent grammatical characteristic of this dialect appears in the numerals, which are everywhere Urdū, but are not spoken correctly.

The conditions under which the people live are so artificial and so unlike those of an ordinary community that it is impossible to describe them on the usual lines. There are hardly any natural movements to observe and report. The following remarks aim at a description of the social state of the convicts and the unofficial population in the regulated conditions of life imposed on them. **Artificial conditions.**

The restrictions under which the free residents live have a distinct effect on the characters of those subjected to them from childhood to death, an effect which will become more and more apparent as generation after generation of convicts' descendants come under their pressure. They include Government establishments introduced from India, traders from India and Burma, domestic servants who have accompanied their masters, very few settlers from outside, and the descendants of convicts who have settled in the Penal Settlement after their release.

General convict statistics for a series of years are given below:—

Particulars.		1874.	1881.	1891.	1901.	1905-6.
Number of convicts received	Male	603	1,102	869	1,232	1,507
	Female	97	100	52	80	54
Number of life-convicts	Male	6,727	7,668	8,033	9,204	9,642
	Female	836	1,122	861	714	673
Number of term-convicts	Male	6	2,657	2,840	2,037	4,339
	Female	...	5	4	19	42
Number of convicts released	Male	355	64	685	215	300
	Female	4	3	73	32	31
Admissions into hospital	Male	11,192	25,531	22,328	22,319*	25,991
	Female	842	827	1,094	1,290	1,246
Number died	Male	107	534	435	433	529
	Female	9	18	17	17	30
Number escaped and not recaptured	Male	24	15	14	5	13
	Female	...	...	...	...	...
Number executed	Male	6	13	12	6	5
	Female	...	...	...	...	...

* Medical statistics are for 1900.

In this table the 'escaped' are those who have not been heard of again. As a matter of fact, such unfortunates, as

a rule, die in the jungles or are drowned at sea. Very rarely does a convict escape to the mainland.

Distribution.

At the Census of 1901 the population of Port Blair was distributed over an occupied area of 327 square miles in 29 'stations,' or places where labouring convicts are kept, and 34 'villages,' or places where free residents or ticket-of-leave convicts ('self-supporters') reside. The population then numbered 16,256, including 150 persons—114 males and 36 females—on the mail steamer. Details of the population on March 31, 1906, are shown in the following table :—

	Christians.		Hindus.		Muhammadans.		Buddhists.		Others.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Civil . .	58	..	38	..	10	..	1	..	..	..	107	..
Military . .	155	..	202	..	157	..	..	..	3	..	517	..
Marine . .	12	..	..	..	2	..	..	..	..	..	14	..
Police . .	2		382	..	211	..	..	..	..	..	595	..
Free residents .	22	58	636	552	180	161	3	2	4	4	845	777
Convicts . .	37	..	7,657	440	3,676	251	2,460	8	151	16	13,981	715
Conditionally released convicts . .	..	..	8	2	3	..	..	..	..	..	11	2
Children of all ranks . .	37	34	498	408	194	157	4	1	5	3	738	603
Total	323	92	9,421	1,402	4,433	569	2,468	11	163	23	16,808	2,097

Religion.

Every religion in India is represented among the convicts, but it was impossible to classify Hindus by sect. The Sikhs are represented chiefly in the military police battalion, the Buddhists by the Burman convicts, and the Christians by the British infantry garrison and the officials. It is to be noticed that not one person was returned as a Jew among all the convicts.

Occupation.

The necessary work of the Settlement is all performed by convicts. Omitting those employed as public servants, the ex-convict and free unofficial population is chiefly supported by agriculture, which was recorded as the means of subsistence of 57 per cent.

Caste.

As the maintenance of caste among natives of India involves the maintenance of respectability, and as the aim of the penal system is the resuscitation of respectability among the convicts, nothing is permitted that would tend to destroy the caste feeling among them. The tendency as usual is to raise their caste wherever that is possible, and occasionally some crafty scoundrel is convicted of illegitimate association with fellow Hindus. Two Mehtars (sweepers) were some time ago detected in successfully managing this : one, a 'self-supporter,' masqueraded for years in his village as a Rājput (Rājvansi),

and another for years was cook to a respectable Hindu free family on the ground of being a Brāhman. It is also not at all uncommon for low-caste ex-convict settlers to adopt a mode of dress and life which would be quite inadmissible if they were to return to their native villages. In Port Blair, as elsewhere, the great resort of those desiring to raise their social status is the adoption of Islām. On the other hand, instances have occurred in which men who were not so by caste have volunteered to become Mehtars, debasing their social status in order to adopt what they regarded as a less arduous mode of life than cooly labour.

Considerable ethnographic interest attaches to the descendants of convicts, as a marked difference is maintained at present between the free introduced from India and the free with the taint of convict blood. In certain cases the barrier is broken down socially, but entry by marriage into a 'local-born' family is regarded as degrading to an immigrant from India. How long this will last, and in what directions the barrier will be habitually broken through, is worth watching. At present there is much greater sympathy on the part of the immigrants, temporary or permanent, with the actual convicts than with their descendants.

Although the 'self-supporter' is entitled to send for his family from India, he very seldom does so, or it may be that the families are seldom willing to join convicts; and the result is that the 'local-born' are nearly all the descendants of convict marriages. Any 'self-supporter' may marry a convict woman from the female jail, if he has the permission of the Settlement authorities and the marriage is in accordance with the social custom of the contracting parties. In practice, an inquiry ensues on every application, covering the eligibility of the parties to marry under convict rules, the capacity of the man to support a family, and the respective social conditions in India of both parties. A Hindu would not be allowed to marry a Muhammadan woman, while an undivorced Muhammadan woman with a husband living in India would not be allowed to marry at all; and so on. When the preliminaries have been settled, often after prolonged inquiry, permission is registered by the Superintendent, who then calls upon the parties to appear before him and certify, on a given date, that they have been actually married according to their particular rite. The marriage is registered by the Superintendent and becomes legal. Owing to the enormous variety of marriage rites in India, the statement of the parties that the appropriate cere-

monies have been performed is accepted. In carrying out this practice there is no difficulty as regards Christians, Muhammadans, and Buddhists, endogamy within their group being easily ensured; but some difficulty has arisen as regards Hindus. Customs among Hindus differ indefinitely, not only in every caste but with every locality; and as the convicts come from various castes and localities, in the strict view of the question hardly any Hindu marriage contracted in Port Blair could be in accordance with custom, which, be it noted, is a different question from legality. In the Settlement, however, the knot has been cut since 1881 by recognizing only the four main divisions (*varna*) of Hindus as separate castes, within which there must be endogamy among the Hindu convicts: namely, Brāhmans, Kshattriyas, Vaisyas, and Sūdras. Before 1881, under pressure of the dominating conditions, the rule was merely Hindu to Hindu, Muhammadan to Muhammadan, Christian to Christian; Buddhists and others hardly came into consideration.

The birth and growth of caste among convicts' descendants is thus a question of the growth and formation of new or special local Hindu castes, which can be studied obscurely in every part of India, and clearly enough in all regions where a Hindu propaganda is being carried among indigenous and animistic populations in the course of the natural spread of civilization along new lines of communication. In Port Blair the caste feeling exists as distinctly, within limits, among the 'local-born' Hindus, as it does elsewhere among the natives of India; and the interest of the question lies in observing how the people have settled the relative social status of the descendants of what, in India, would be looked on as the offspring of mixed castes; for fond as they are of talking of their caste and claiming it, the 'local-born' have but hazy ideas on the subject as it is understood in the localities from which their parents came. They take into consideration only the caste of the father, as they understand it, that of the mother being ignored. Having introduced this great innovation into custom, they divide themselves into high and low castes; the children of Brāhman, Kshattriya, and Vaisya fathers holding themselves, so far as they can, to be of high caste and apart from the whole of the innumerable castes coming under the head of Sūdra or low caste. Then a 'local-born' man marries, if possible, the daughter of a man of the same caste as his own father. Thus is a full caste system like that of India being developed among the descendants of the convicts.

The present customs connected with marriage among the 'local-born' show clearly that there is as yet no notion of hypergamy, and that under pressure of surrounding conditions caste has to be set aside in marriages, and can only be maintained by ignoring the caste of the mothers. There is, however, a strong desire to marry into the same caste, and wherever practicable this is no doubt done. It is probable that caste maintenance in its strictness will commence in the isogamy which, in India, is so merged in hypergamy that it was left out of consideration in the last *Census Reports*. That in time caste will rule marriages and social relations in the Penal Settlement in all its accustomed force, there appears to be little doubt.

The following table gives statistics of civil condition in 1901 :—

	Total.	Males.	Females.
Unmarried . . .	4,387	3,762	625
Married . . .	10,458	9,259	1,199
Widowed . . .	1,411	1,101	310
Total	16,256	14,122	2,134

Sickness and mortality are always matters of great consideration among a convict population; but the conditions are also artificial, owing to the conflict between efficiency in discipline and labour, and the maintenance of a low sick-rate and death-rate by regulations and direct measures. The tendency on one side is to err in the direction of penality and economy, and on the other to secure health by leniency and extravagance. Port Blair has had no exceptional experience of this struggle, which is perpetually maintained wherever prisoners are congregated in civilized countries. All convict sickness and mortality tables must be considered with these qualifications. While the annual rainfall does not bear any real relation to either sickness or death-rate, the monthly rainfall has a decided effect on the sick-rate, which rises regularly every year during the rains (June–September). The tables on the next page compare sickness and mortality in the Settlement for a series of recent years, mostly corresponding with census years.

Health and mortality.

Effect of rainfall.

Sickness and mortality.

Year.	Average daily strength.			Daily average sick.			Deaths in and out of hospital.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1874	6,852	885	7,737	580	25	605	177	17	194
1881	9,966	1,097	11,063	1,205	13	1,218	543	18	561
1891	10,739	837	11,576	664	24	688	461	24	485
1900	10,880	714	11,594	602	27	629	452	16	468
1905	13,634	722	14,356	937	34	971	529	30	559

RATIO PER MILLE OF AVERAGE STRENGTH

Year.	Of admissions.			Of daily number of sick.			Of deaths.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1874	2,102·16	1,291·53	2,009·44	84·65	28·25	78·20	25·83	19·21	25·07
1881	2,561·81	753·87	2,382·54	120·91	11·85	110·09	54·49	16·41	50·71
1891	1,607·13	1,342·89	1,588·03	61·83	28·67	59·43	42·93	28·67	41·90
1900	2,051·38	1,806·72	2,036·31	53·35	37·28	54·20	41·54	22·41	40·36
1905	1,906·34	1,725·76	1,897·25	68·72	47·09	67·63	38·80	41·55	38·93

Statistics for isolated years are, however, illusory, as from some causes not yet reported the sickness and mortality appear to rise and fall in successions of years, as shown in the following abstract:—

CYCLES OF HEALTH

Period.	Death-rate.	Average death-rate per mille.
Four years ending 1874 . .	Low	18.46
Seven years ending 1881 . .	High	49·07
Six years ending 1887 . .	Low	22·02
Five years ending 1892 . .	High	41·37
Six years ending 1898 . .	Low	28·39
Two years ending 1900 . .	High	41·25
Five years ending 1905 . .	Low	37·30

The worst year on record was 1878–9, with a death-rate of 67·30. Sickness and death-rates for any given period or year are really due to a combination of causes, which are very difficult to determine, but an elaborate inquiry made in 1902 showed that the highest rates are among the latest arrivals. The inference is that the health statistics for any given period depend largely on the number of new arrivals and convicts of short residence present; and it is possible, for example, that the high rate in 1878–9 was due to the weakness caused by the prevalence of famine in India.

The following figures may be taken as approximately exhibiting the relative importance of prevalent diseases:— Prevalent diseases.

Disease.	Percentage among the sick.
Malarial fever (47 per cent.), and dysentery consequent thereon (7 per cent.)	54
Ulcers and injuries	16
Phthisis	6
All other diseases, including dysentery other than malarial (7 per cent.)	24
Total	100

Ulcers and injuries are classed together, as they are both ordinarily caused by outdoor work, and are largely due to the carelessness of the convicts. The organization of a mosquito brigade and other apparatus for reducing mosquitoes will perhaps largely reduce the importance of malaria. After fever, dysentery (caused by malaria and otherwise) is the chief disease, and is being combated by improved cooking, milk, and diet. Phthisis (with tuberculosis), as an infectious preventible disease likely to spread if unchecked, is being treated in a special hospital, and by other preventive measures.

Only about 6 per cent. of the labouring convicts are employed as agriculturists, and those chiefly to supply special articles of food for the convicts and staff, such as vegetables, tea, coffee, and cocoa. But agriculture is the main source of livelihood among the 'self-supporters,' whose labours have contributed to the solid progress of the Settlement. The area of cleared land has increased from 10,421 acres in 1881 to 25,189 in 1905, and that of cultivation from 6,775 to 10,364 acres. Although the working of the Regulations has very largely reduced the number of 'self-supporters' in the last decade, the result of steady agricultural labour for many years is shown by increased productive capacity in the land, and a rise in the prosperity of the 'self-supporters.' The value of supplies purchased from these rose from £1,913 in 1874 to £3,260 in 1881, £3,572 in 1891, and £7,116 in 1901. Agriculture and economics.

All the land in the Penal Settlement is vested in the Crown, and all rights in it are subject to the orders of the Government of India. Practically the land is held at a fixed rent under licence from the Chief Commissioner, on conditions which, *inter alia*, subject devolution and transfer to his consent, and determine the occupation on compensation at a year's notice or on breach of the conditions. The working of the rules, Revenue system.

framed primarily to meet the requirements of the 'self-supporter' convicts, is in the hands of the district officers, through *amīns* or native revenue officials. Village revenue papers like those maintained in India are kept up, and fixed survey fees are demanded.

House sites, except those of cultivators which are free, are divided into four classes, and a tax is levied varying from Rs. 2 to Rs. 25 according to the net annual income of the holders.

Land for cultivation is divided into valley and hill land, the rent being fixed according to quality with a maximum of Rs. 4–8–0 per acre for the valley and Rs. 2–4–0 for the hill land. Licences are given for five years, and may be surrendered on three months' notice. They are subject to special conditions for each holding, and to general conditions, among which are that the land may not be surrendered or transferred without permission, and that 5 per cent. of the amount paid by the transferee is paid to the Government as a fine. Similar conditions are attached to licences for house sites. Grazing fees are levied by licence for the use of the Government (common) lands for grazing or cutting grass for cattle, at the rate of Rs. 2 per annum per animal, and in the case of goats 8 annas per annum each; but cultivators may graze two bullocks free for each 5 to 15 *bīghas* ($\frac{2}{3}$ to 5 acres) of land held by them.

'Self-supporters,' subject to good behaviour, can hold land on, *inter alia*, the following general terms: free rations and free use of village servants for six months; free grant of an axe, hoe, and *da*; rent, tax, and cess free for three to four years, with a limit of 5 *bīghas* if the land is uncleared jungle, or for one to two years with a limit of 10 *bīghas* if the land is already cleared. Double holdings are permitted up to two years. 'Self-supporters' must not sublet or alienate their holdings, must occupy them effectively, must assist in making village tanks, roads, and fences, and must keep houses and villages clean and in good repair. Their houses may be sublet, with permission, but only to other 'self-supporters,' as free men and convicts may not live together in villages.

Cesses. The following cesses and fees are levied: educational cess, collected with the revenue on house sites and land, according to grade, from Rs. 3 to 6 annas per annum; village conservancy fees, from 2 to 4 annas per house per mensem, collected monthly; *chaukīdāri* (village officials) fees, 4 annas per house or lodger per mensem, collected monthly; *sālutri*

(veterinary) fees, raised from possessors of cattle to provide for veterinary care and inspection of village cattle, at about half the educational cess.

The village officials, who receive fixed salaries, are the *chaudhri* (headman) and the *chaukīdār* (watchman). The *chaudhri* is the head of the village, responsible for its peace and discipline, and for assistance in the suppression of crime. He is the village tax collector, auctioneer, and assistant land revenue official. The *chaukīdār* is his assistant.

General economic conditions. Generally speaking a 'self-supporter' has an income of from Rs. 7 a month upwards, and an agricultural 'self-supporter' can calculate on a net income of not less than Rs. 10 a month. As the peasantry of India go, the 'self-supporter' is well off. The free resident population is probably not in so good circumstances, so far as it depends on the land.

Forests. The forests are worked by officers of the Indian Forest department as nearly as may be on Indian lines, and the Settlement is divided into afforested and unafforested lands. The 'reserved' forest areas amount to about 156 square miles. As little change as possible is made in these, but the growing condition of the Settlement makes it sometimes imperative to effect small alterations in area. The Forest department superintends the extraction of timber and firewood, and the construction of tramways; but the conversion of timber at the steam saw-mill on Chatham Island is done by the Public Works department. In 1904–5 the Forest department employed 1,102 men. Elephants are used to drag logs from the forests to tramways or the sea, and rafts are towed by steamers to Port Blair. This is a comparatively new department for utilizing convict labour, and is now the chief source of revenue in cash. The earnings under this head have increased from 1·6 lakhs in 1891 and 2·8 lakhs in 1901 to 6·2 lakhs in 1904–5. In the latest year the total charges amounted to 3·4 lakhs.

Trade and manufactures. Although the 'self-supporters' and the free residents follow occupations other than agriculture and Government service, the numbers so employed have but a comparatively small effect on the industries of the Settlement, and practically all the labour available is found by the labouring convicts. There is an unlimited variety of work, as can be seen from the following list of objects on which they are employed: forestry, land reclamation, cultivation, fishing, cooking, making domestic utensils, breeding and tending animals and poultry, fuel, salt, porterage by land and sea, ship-building, house-building, furniture, joinery, metal-work, carpentry, masonry, stone-work,

quarrying, road-making, earthwork, pottery, lime, bricks, sawing, plumbing, glazing, painting, rope-making, basket-work, tanning, spinning, weaving, clothing, driving machinery of many kinds and other superior work, signalling, tide-gauging, designing, carving, metal-hammering, electric-lighting, clerical work and accounting, hospital compounding, statistics, book-binding, printing, domestic and messenger service, scavenging, cleaning, petty supervision. The machinery is large and important, and some of the works are on a large scale.

The general heads of employments of labouring convicts appear from the following abstract of the labour statement on December 21, 1906:—

Ineffective (excluding departments), 2,256.	Departmental employ, 3,081.	Supervising establishment (excluding departments), 969.	Fixed establishments, 2,602.
Sick and weakly 1,355 Lunatics . . 219 Lepers . . 53 In jails . . 572 Others . . 57	Commissariat 727 Marine. . 448 Medical . 316 Forest . 1,122 Tea . . 317 Other departments . 151	Petty officers 969	Boats . . 259 Private service . 205 Government service . 153 Station service . 892 Supplies . 453 Conservancy 141 Others . 499
Fixed works, 1,516.	**Artificer corps, 849.**	**Miscellaneous labour, 995.**	**Females, 348.**
Workshops . . 413 Quarries . . . 61 Potteries . . . 4 Brickfields . . 590 Jail buildings . 448	Artificers . 448 Coolies . 401	At disposal of officers for repairs 995	Jail labour . 348

Workshops.

In the Phoenix Bay workshops a great variety of work is performed, under the heads of supervision, general, machinery, wood, iron, leather, silver, brass, copper, tin; and attached to the shops are a foundry, a tannery, and a limekiln. This department is always growing. The whole of the out-turn is absorbed locally, and no export trade is undertaken. The work done has nearly all to be taught to the convicts employed, and is performed partly by hand and partly by machinery. By hand they are taught to make cane-work of all sorts, plain and fancy rope-making, matting, fishing-nets, and wire-netting. They do painting and lettering of all descriptions. They repair boilers, pumps, machinery of all sorts, watches and clocks. In iron, copper, and tin, they learn fitting, tinning, lamp-

making, forging, and hammering of all kinds. In brass and iron they perform casting in large and small sizes, plain and fancy, and hammering. In wood they turn out all sorts of carpentry, carriage-building, and carving; and in leather they make boots, shoes, harness, and belts. They tan leather and burn lime. By machinery, in iron and brass, they perform punching, drilling, boring, shearing, planing, shaping, turning, welding, and screw-cutting. In wood they learn sawing, planing, tonguing, grooving, moulding, shaping, and turning; and in wheel-making they do the spoke-tenoning and mortising. Machinery is continually being added, in order to relieve labour for forestry and agriculture, the two descriptions of employment which are best calculated to make the Settlement completely self-supporting. Machinery will make it industrially, and forestry and agriculture financially, independent: points that are never lost sight of and control the labour distribution.

The work of the Marine department about Phoenix Bay is chiefly connected with the building, equipment, and working of the steam-launches, barges, lighters, boats, and buoys maintained. **Marine department.**

In the female jail women are employed on the supply of clothing, but they also do everything else necessary for themselves; and the only two men allowed to work inside the jail are the Hospital Assistant and the jail carpenter. **Female jail.**

The bulk of the exports consist of timber, empties belonging to the Commissariat department, canes and other articles of jungle produce, edible birds'-nests and trepang. The imports consist chiefly of Government stores of various kinds, private provisions, articles of clothing, and luxuries. **Exports and imports.**

The means of communication are good, and may be grouped as by water about the harbour, by road, and by tram (animal and steam haulage). Eight large and two small steam-launches, and a considerable number of lighters, barges, and boats of all sizes are maintained. Sailing boats, except for the amusement of officers, are, for obvious reasons, not permitted. Several ferries ply at frequent intervals across the harbour. The roads are metalled practically everywhere, and are unusually numerous. Where convicts are concerned, it is a matter of importance to be able to move about quickly at very short notice. The roads include about 110 miles of metalled and about 50 of unmetalled routes. The tram-lines by animals are chiefly forest, and their situation varies from time to time according to work. The steam tram-lines are from Settlement **Communications.**

Brickfields to South Quarries and Firewood area, 5 miles; North Bay to North Quarries, 2 miles; Forest Wimberley Ganj to Shoal Bay, 7 miles; Bājajāgda to Constance Bay and Port Mouat, 6 miles. Short lines are maintained at a number of other places.

The harbour of Port Blair is well supplied with buoys and lights. The lighthouse on Ross Island is visible for 19 miles, and running-in lights, visible 8 miles from both entrances to the harbour, are fixed on the Cellular Jail at Aberdeen and on South Point. There is also a complete system of signalling (semagraph) by day and night on the Morse system, worked by the police. Local posts are frequent, but the foreign mails are irregular. Wireless telegraphy between Port Blair and Diamond Island off the coast of Burma has been worked successfully since 1905, and the various portions of the Settlement are connected by telephone.

Post Office.

The external postal service is effected by the Port Blair Post Office, which is under the control of the Postmaster-General, Burma. The Chief Commissioner, however, regulates the relations of the Post Office with convicts. The following table gives statistics of the postal business :—

	1890–1.	1900–1.	1904–5.
Number of post offices	1	1	1
Total number of postal articles delivered :—			
Letters	69,082	65,112	82,498
Postcards	7,150	18,360	19,474
Packets	3,328	38,316*	18,018
Newspapers	36,686	10,620†	21,476
Parcels	3,276	2,568	3,952
Value of stamps sold to the public Rs.	4,305	3,810	3,510
Value of money orders issued Rs.	‡	1,40,820	1,60,372
Savings bank deposits by convicts Rs.	§	§	25,550

* Including unregistered newspapers.
† Registered as newspapers in the Post Office.
‡ The figures are included in those given for Bengal.
§ No returns issued.

Finance.

The penal system is primarily one of discipline, financial considerations giving way to this all-important point. The labour of the convicts is firstly disciplinary; secondly, it provides for the wants of the Settlement so far as these can be supplied locally; thirdly, it is expended on objects directly remunerative. All necessary expenditure in cash is granted directly by the Government of India, and against this are set off the earnings of the convicts in money. The following table

gives the totals, for a series of years, in thousands of rupees, but a considerable variation occurs from year to year:—

	1891.	1901.	1905-6.
Receipts, total	4,74	5,71	9,10
Expenditure, total	12,97	17,34	21,86
Net cost of Settlement	8,23	11,63	12,77
" " the convict Rs.	69-10-11	99-4-9	88-4-3

The value of convict labour expended on local work and supplies is not included.

The net cash cost of the convict at any given period depends on how far convict labour is employed on objects returning a cash profit, and also on the number of 'self-supporters,' who supply local products at a far smaller cost than those procured from places outside the settlements. Since 1891, very large jails and subsidiary buildings have been under construction, absorbing labour which could otherwise have been employed in the forests and on other objects remunerative in cash, while the number of 'self-supporters' has been greatly reduced by a change in the regulations, resulting in a reduction of agricultural holdings and the amount of jungle cleared annually. Both of these arrangements are disciplinary, and illustrate the dependence of cost on general policy. *Cost of the convict.*

The following table shows the progress of the principal sources of revenue and expenditure, in thousands of rupees:— *Receipts and expenditure.*

	1890-1.	1900-1.	1905-6.
Land revenue	35	36	31
Forests	1,58	2,78	5,83
Other heads	2,81	2,57	2,96
Total revenue	4,74	5,71	9,10
Salaries, establishment, and contingencies	1,20	1,38	1,23
Tea cultivation	16	30	25
Education	5	5	6
Medical	37	40	44
Ecclesiastical	8	8	10
Commissariat establishment and supplies	4,14	6,10	7,18
Marine	12	22	25
Jail	10	24	28
Police	1,37	1,46	1,40
Subsistence money to convicts	92	71	88
Forest establishment and supplies	1,75	2,85	5,00
Clothing for convicts and police	33	38	58
Public works	26	71	1,09
Purchase of stores	36	18	1,20
Passage money and freight on stores	1,63	1,7[illegible]	1,75
Other charges	13	15	17
Total expenditure	12,97	17,34	21,86

Public works. The public works are constructed and maintained in all branches by the artificer corps, an institution going back historically long beyond the foundation of Port Blair in the Indian penal settlement system. Men who were artisans before conviction, and men found capable after arrival, are formed into the artificer corps, which is divided into craftsmen, learners, and coolies. This corps is an organization apart, has special privileges and petty officers of its own, known as foreman petty officers, who labour with their own hands, and also supervise the work of small gangs and teach learners.

Military. The total strength of the British and native army stationed in the islands in 1905 was 444, of whom 140 were British. The Andaman Islands now belong to the Burma division. The military station, Port Blair, is attached to Rangoon, and is usually garrisoned by British and native infantry. Port Blair is also the head-quarters of the South Andaman Volunteer Rifles, whose strength is about thirty.

Police. The police are organized as a military battalion 701 strong. Their duties are both military and civil, and they are distributed all over the Settlement in stations and guards. They protect the jails, the civil officials, and convict parties working in the jungles, but do not exercise any direct control over the convicts.

Education. The 'local-born' population is better educated than is the rule in India, as elementary education is compulsory for all male children of 'self-supporters.' The sons of the 'local-born' and of the free settlers are also freely sent to the schools, but not the daughters; fear of contamination in the latter case being a ruling consideration, in addition to the usual conservatism in such matters. A fair proportion acquire a sufficient knowledge of English for clerkships. Provision is also made for mechanical training to those desiring it, though it is not largely in request, except in tailoring; and there is a fixed system of physical training for the boys. Native employés of Government use the local schools for the primary education of their children. Six schools are maintained, of which one includes an Anglo-vernacular course, while the others are primary schools. In 1904-5 these contained 152 boys and 2 girls of free parents, and 55 boys and 40 girls of convict parents; and the total expenditure was Rs. 5,360. Owing to mistakes in enumeration the census returns for literacy are of no value.

Medical. There are four district and three jail hospitals in charge of four medical officers, under the supervision of a senior

officer of the Indian Medical Service. Medical aid is given free to the whole population, and to Government officials under the usual Indian rules. The convicts unfit for hard labour are classed as—sick and detained in hospital, convalescents, light labour invalids, lepers, and lunatics. For each of these classes there are special rules and methods of treatment under direct medical aid. Practically every child born in the Settlement is vaccinated.

Barren Island.—A volcanic island in the Andaman Sea, lying about 71 miles north-east of Port Blair. See ANDAMANS (p. 6).

Car Nicobar.—The northernmost of the Nicobar Islands. See NICOBAR (pp. 27, 32).

Nancowry Harbour.—The best harbour in the Nicobar Islands. See NICOBAR (pp. 27, 32, 52).

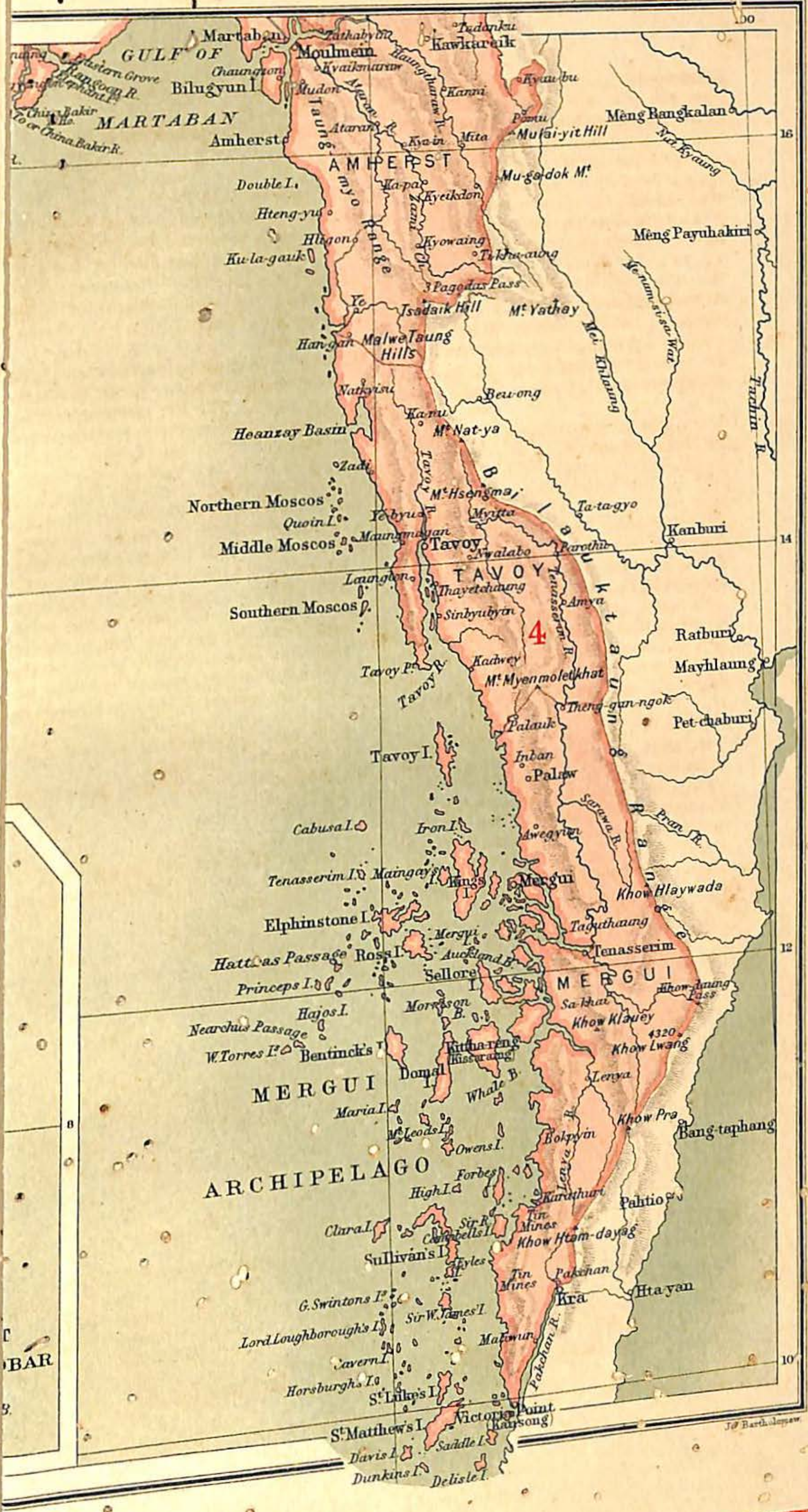
Narcondam Island.—A volcanic island in the Andaman Sea, lying about 105 miles north-east of Port Blair. See ANDAMANS (p. 6).

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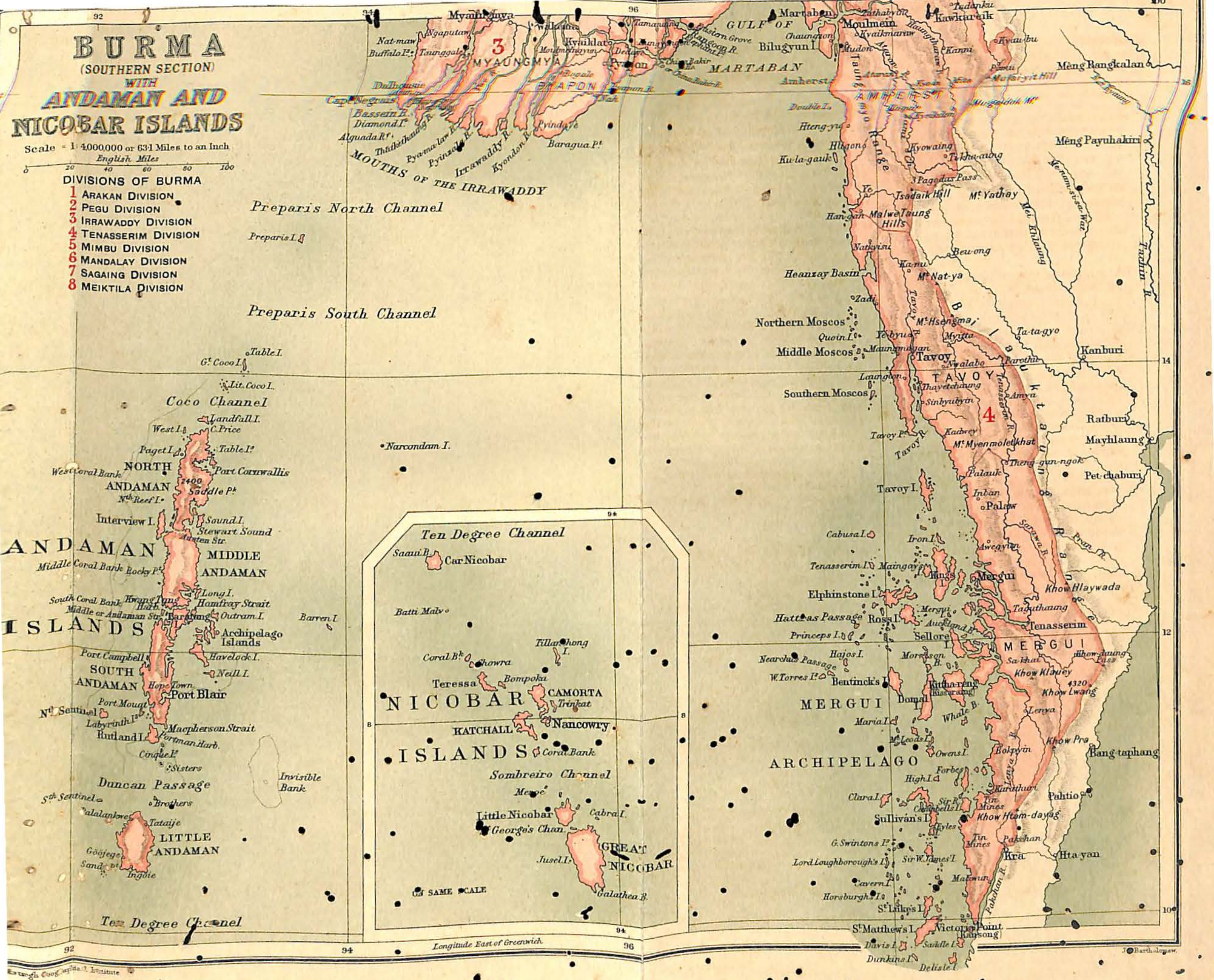
B.

C.

Oxford: HORACE HART, Printer to the University


GULF OF MARTABAN
Martaban
Moulmein
Bilugyun I.
Amherst
Kawkareik
AMHERST
Double I.
Ku-la-gauk I.
Taung-nyo Range
3 Pagodas Pass
Isadaik Hill
Mt. Yathay
Malwe Taung Hills
Mu-ga-dok Mt.
Mêng Bangkalan
Mêng Payuhakiri
Mutai-yit Hill
Beu-ong
Mt. Nat-ya
Heanzay Basin
Northern Moscos
Quoin I.
Middle Moscos
Southern Moscos
Tavoy
TAVOY
Tavoy Pt.
Tavoy R.
Tavoy I.
Mt. Hsengma
Ta-ta-gyo
Kanburi
Amya
Thayetchaung
Sinbyubyin
Kadwey
Mt. Myenmoletkhat
Ratburi
Mayhlaung
Pet-chaburi
Palauk
Palaw
Cabusa I.
Iron I.
Tenasserim I.
Maingay I.
Kings I.
Mergui
Awegyun
Khow Hlaywada
Elphinstone I.
Tenasserim
Taguthaung
Hatteras Passage
Ross I.
Auckland B.
Sellore I.
Princeps I.
MERGUI
Sa-khan
Khow Klauey
4320
Khow Lwang
Nearchus Passage
Hajos I.
W. Torres Is.
Bentinck's I.
Domal I.
Kitthareng
Kissaraing
Whale B.
Lenya
MERGUI ARCHIPELAGO
Maria I.
McLeods I.
Owens I.
Khow Pra
Bang-taphang
Bokpyin
Forbes I.
High I.
Clara I.
Sir R. Campbells I.
Sullivan's I.
Tin Mines
Khow Htam-dayag
Pahtio
Pakchan
Kra
Hta-yan
G. Swintons Is.
Sir W. James I.
Lord Loughborough's I.
Malewun
Cavern I.
Horsburgh's Is.
St. Luke's I.
Victoria Point
St. Matthew's I.
Saddle I.
Davis I.
Dunkins I.
Delisle I.
Pakchan R.
Lenya R.
Tenasserim R.
Tavoy R.
16
14
12
10
4
J. G. Bartholomew


14
12
10


BURMA
(SOUTHERN SECTION)
WITH
ANDAMAN AND
NICOBAR ISLANDS
Scale = 1: 4,000,000 or 63·1 Miles to an Inch
English Miles
0 20 40 60 80 100
DIVISIONS OF BURMA
1 Arakan Division
2 Pegu Division
3 Irrawaddy Division
4 Tenasserim Division
5 Mimbu Division
6 Mandalay Division
7 Sagaing Division
8 Meiktila Division
GULF OF MARTABAN
MOUTHS OF THE IRRAWADDY
MYAUNGMYA
THAPON
Preparis North Channel
Preparis I.
Preparis South Channel
Table I.
Gt. Coco I.
Lit. Coco I.
Coco Channel
Landfall I.
NORTH ANDAMAN
Port Cornwallis
Saddle Pk.
Interview I.
Stewart Sound
ANDAMAN
MIDDLE ANDAMAN
ISLANDS
Archipelago Islands
Barren I.
Narcondam I.
Havelock I.
Neill I.
SOUTH ANDAMAN
Port Blair
Macpherson Strait
Rutland I.
Duncan Passage
Invisible Bank
Sth. Sentinel
Brothers
LITTLE ANDAMAN
Ten Degree Channel
Ten Degree Channel
Car Nicobar
Batti Malv
Tillanchong I.
Teressa
Bompoka
CAMORTA
NICOBAR
Trinkat
KATCHALL
Nancowry
ISLANDS
Coral Bank
Sombreiro Channel
Little Nicobar
St. George's Chan.
Cabra I.
GREAT NICOBAR
Galathea B.
ON SAME SCALE
Longitude East of Greenwich
Moulmein
Martaban
Amherst
AMHERST
Kawkareik
Bilugyun I.
Taungnyo Range
3 Pagodas Pass
Mt. Yathay
Ye
Heanzay Basin
Northern Moscos
Middle Moscos
Southern Moscos
Tavoy
TAVOY
4
Tavoy I.
Mt. Myenmoletkhat
Bilauktaung Range
Palauk
Palaw
Mergui
MERGUI
Tenasserim
Elphinstone I.
Hastings Passage
Ross I.
Sellore I.
Bentinck's I.
Domel I.
MERGUI ARCHIPELAGO
Sullivan's I.
Tin Mines
Kra
Khow Htam-dayag
Victoria Point
St. Matthew's I.
Méng Rangkalan
Méng Payuhakiri
Kanburi
Ratburi
Mayhlaung
Pet-chaburi
Bang-taphang
Paktio
Hta-yan
Tachin R.
Khow Hlaywada
Khow Pra
J. Bartholomew.